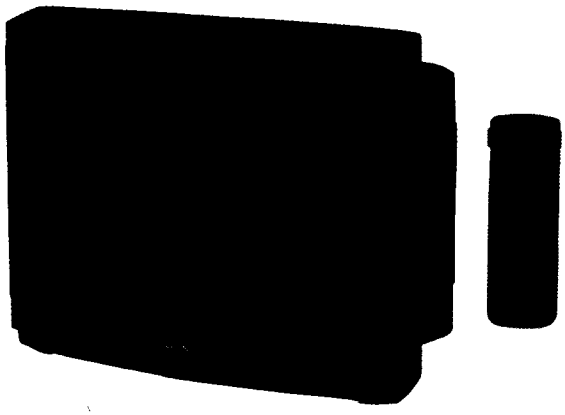
KV-A2912U
RM-816

SERVICE MANUAL

UK Model
Chassis No. SCC- E23G-A



AE-1C CHASSIS

MODELS OF THE SAME SERIES	
KV-A2912U	
KV-E2522U/E2922U	

SPECIFICATIONS

Television system	
Color system	B/G/H
Stereo system	PAL, SECAM, NTSC3.58, NTSC4.43
Channel coverage	GERMAN stereo
Picture tube	VHF: E1-E10.
	Black Trinitron tube
	Approx. 72.4 cm
	(Approx. 68 cm picture measured diagonally)
Inputs	110 ° -degree deflection
	1 21-pin connector:
	CENELEC standard including RGB input.
	2 21-pin connector:
	including S video input
	Flont : 3 Audio and video input jacks:
	phono jack.
	Including S Video input
	Y: 1Vp-p±3dB 75ohm
Outputs	C: 0.3Vp-p±3dB 75ohm
	21-pin connector: CENELEC standard
	Headphones jack: stereo minijack
	External speaker terminals: 2-pin DIN
	Audio output jacks: phono jack (output dependent upon TV settings)

Sound output	30 W + 30 W
Power consumption	167Wh
Dimensions incl.speakers	Approx. 761×568×512 mm (w/h/d)
Weight incl.speakers	Approx. 55kg
【RM-816】	
Remote control system	infrared control
Power requirements	3V dc
	2 batteries IEC designation
	R6 (size AA)
Dimentions	Approx. 75×221×23mm(w/h/d)
Weight	Approx. 230g (including batters)
Accessories supplied	IEC designation R6 batteries (2)
Supplied accessories	RM-816 Remote Commander (1)
	IEC designation R6 batteries (2)

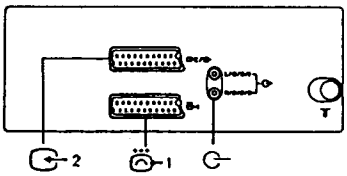
Design and specifications are subject to change without notice.

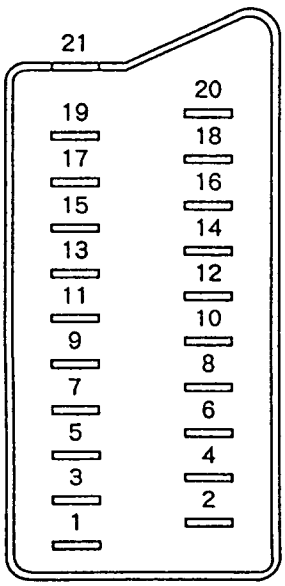
MICROFILM

TRINITRON® COLOUR TV

SONY®

21 pin connector (1, 2)





Pin No.	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V): Part mode Low state (0 – 2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (branking)	
15	○	–	Red input	0.7V ± 3dB, 75ohms, positive
	–	○	(S signal) croma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
20	○	–	Video input	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
	–	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open) * at 20Hz – 20kHz

4 pin connector ( )

Pin No.	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB, 75ohms, positive Sync: 0.3V $^{+3}_{-10}$ dB
4	C (S signal) input	0.3V ± 3dB, 75ohms, positive

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

TABLE OF CONTENTS

NICAM Reception

Reception of NICAM broadcast is possible if the NICAM adaptor (available at your Sony dealer) is installed in the TV.

When the NICAM broadcast is being received, indicators illuminate according to the sound being heard.
Select the sound you want to hear by pressing the A/B bilingual button. Each time the A/B bilingual button is pressed, the sound will change as indicated with arrows in the following chart.

○ means that the indicator lights up.
× means that the indicator does not light up.

The NICAM sound being broadcast	The sound you hear (Select with the A/B bilingual button.)	Indicators A	Indicators B	Indicators ⇔* (NICAM)
Stereo	Stereo ← ↓ Regular ←	○	○	○
		×	×	○
A+B (Bilingual)	A ← ↓ B ↓ Regular ←	○	×	○
		×	○	○
		×	×	○
A	A ← ↓ Regular ←	○	×	○
		×	×	○
Regular only	Regular	×	×	×

* When the NICAM adaptor is installed, the ⇔ space sound indicator will function as the NICAM indicator (the space sound function will not be affected). When the NICAM broadcast is being received, the NICAM indicator lights up even when the regular sound has been selected.

When you turn on the TV, what sound will be heard?

When the Regular sound and the NICAM sound are the same, the NICAM sound will be heard.
When the Regular sound and the NICAM sound are different, the Regular sound will be heard.

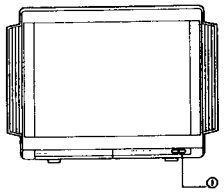
Note

The West German stereo programs can be received as explained in the supplied Operating Instructions.

SECTION 1
GENERAL

1-1. TURNING THE TV UNIT ON AND OFF

After you have completed the basic preparation your TV is ready to be connected to the mains power supply (220/240V-, 50Hz).

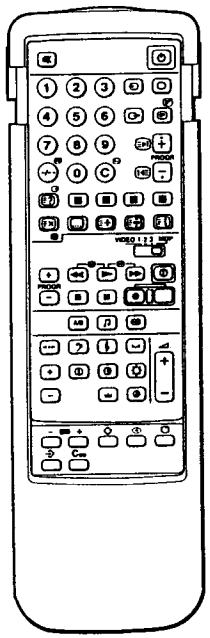


Turning the TV unit ON

Action	Result
1 Press ⏻ on the TV.	The TV will turn on. **Note:** If the screen remains blank, the TV may be in the standby mode. Press ▢ to switch it on.

Turning the TV unit OFF

A Temporarily	
Press ⏻ to enter the standby mode.	The TV will be in the standby mode. To return to the TV mode press ▢.
B Completely	
Press ⏻ on the TV set.	The TV will be turned off.

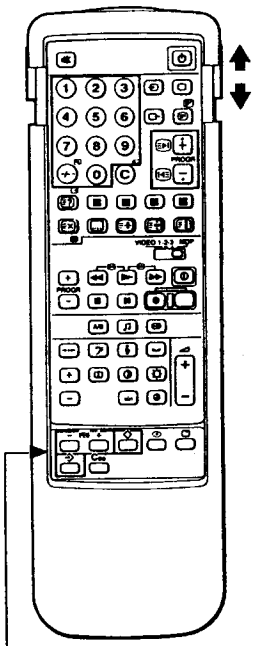


1-2. TV CHANNEL PRESETTING

After installing the TV set, TV channels must be preset.

TV broadcasting stations broadcast their programmes on certain fixed frequencies (channels). In order to receive these programmes it is necessary to search for the relevant broadcasting station and to set record it as a channel. The "programme number" is the number that the user decides to associate with a certain channel.

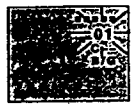
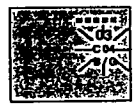
For channel settings there are 60 positions available in the memory. In this way all stations broadcasting within the user's country can be received and recorded as a channel.

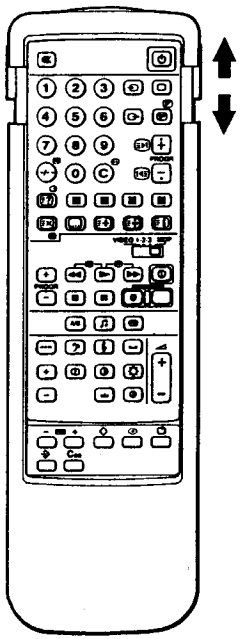


Nota: Utilizzate i tasti indicati nell' illustrazione solo quando preselezionate canali.

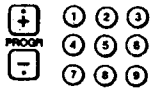
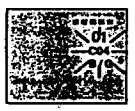
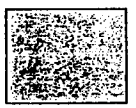
TV channels automatic presetting

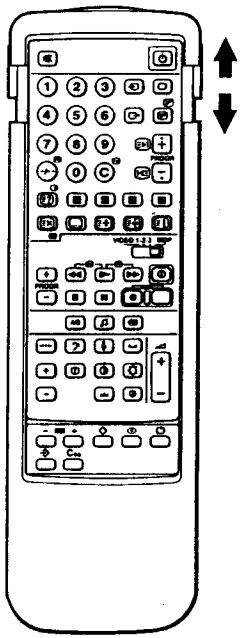
If you are unfamiliar with the transmission frequency of the channels you wish to preset, refer to the section "TV channels automatic presetting". However, if you want to tune them using the frequency of each channel, go to the section "Direct TV channel setting".
To select a button on the "complete" side, take out the remote control unit from its case to reveal the preset buttons, as shown in the illustration.

Operation	Result
1 Press ◇ to begin the preselection.	 The programme number flashes.
2 Press PROGR + /– or the remote control unit number buttons to select the channel number to which you want to preset the station. **NOTE:** To select a 2-figure number press the -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The programme number on the screen changes.
3 To search for broadcasting stations press ⊞ + and – buttons.	 When a broadcasting station is tuned correctly, the search will stop. If you want to skip it, press ⊞ + or – again.
4 Press ◇ to memorize the channel to that which the broadcasting station is tuned.	 All data disappears from the screen.
5 To memorize other broadcasting stations repeat steps from 1 to 4.	



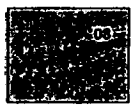
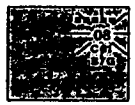
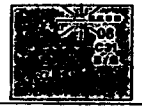
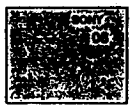
Direct TV channel setting

Operation	Result
1 Press ◇ to begin the presetting.	 The programme number begins to flash on the screen.
2 Press PROGR + /– or the number buttons on the remote control unit to select the channel number to which you want to preset the station.  **Note** To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The programme number on the screen changes.
3 Press C. If you wish to select a cable station, press C twice. 	 Indication "C--" ("S--" for cable stations) flashes on the screen
4 By using the number buttons of the remote control unit select the channel number, always with two figures (for "4" press "04").  **Note:** Press the second number within 5 seconds of the first. After 5 seconds the operation is cancelled.	 The channel number changes on the screen. **Note:** In case of mistake, the "X" letter appears on the screen. Repeat once more the operation of step 4.
5 Press ◇ to memorize the channel to which the station is tuned. 	 All indications disappear from the screen.
To memorize other broadcasting stations repeat the above procedure.	



Broadcasting station identification

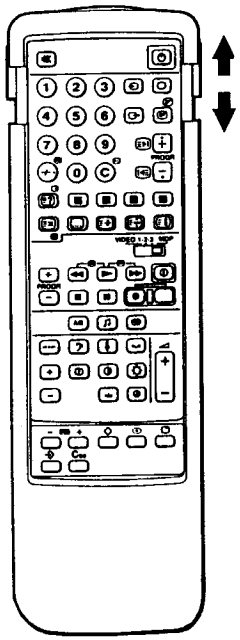
By associating a name with a certain broadcasting station it is possible to avoid having to remember, each time, in which channel number that particular station has been memorized.
Five different characters are available for station identification.

Operation	Result
1 By using PROGR + or –, or the number keys of the remote control unit, select the programme number to be set for identification. 	 The programme number to be set for identification appears on the screen.
2 Press ◇ 	 The number flashes on the screen.
3 Press □ 	 The first indication line flashes on the screen.
4 Press the + or – buttons to select a letter of the alphabet, a number, or a blank space. 	 Alphabetic letters, numbers or a blank space ("–") appear on the screen, in that order.
5 Press □ 	 In this way the first character has been set, and the following position now flashes on the screen.
6 Repeat steps 4 and 5, and fill all five available spaces.	
7 Press ◇ . 	 All indications disappear from the screen, except the programme number. All indications remaining on the screen have been memorized.

Temporary channel tuning

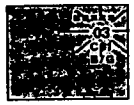
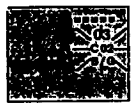
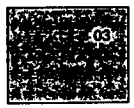
It is possible to temporarily memorize a channel, even if it has not been preset.

Operation	Result
1 Press C. Press C twice for a cable station.	"C" ("S" for cable stations) indication appears on the screen.
2 Using the number keys of the remote control unit select the channel number, always with two figures (e.g., "04" for channel "4").	The channel will be received, but it will not be set as a programme number.



Skipping channels

Using the PROGR + /– buttons you can skip unused programme numbers. However, the skipped numbers may still be called up using the number buttons.

Operation	Result
1 Press ⇢ to begin presetting.	 The programme number begins to flash on the screen.
2 By using the PROGR + and – buttons, or the number keys of the remote control unit, select the programme number you wish to skip.	 The programme number changes.
3 Press C00 .	 Under the programme number, the lowest channel number appears.
4 Press ◇ .	 All indications under the programme number disappear from the screen. The skipped programme number will be memorized.

Manual fine tuning

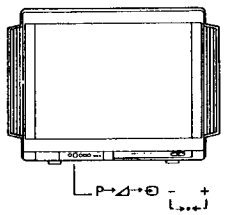
If the picture is not perfect, it is possible to fine tune it manually.

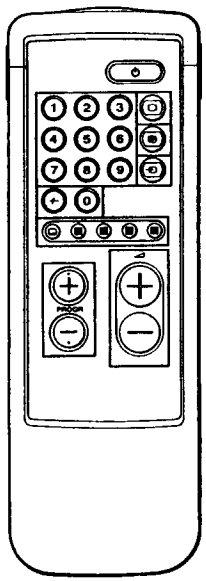
Operation	Result
Press ⊞ + or – repeatedly until the picture is at the optimum.	The indication ←F→ appears on the screen.
Press ⇢ to start preselection.	The programme number starts flashing on the screen.
Press ◇ .	Manual fine tuning has been memorized.

Note: Manual fine tuning will be reset when the channel is selected again.

1-3. BASIC FUNCTIONS

Per aprirlo premete sulla freccia. (↓)





This section introduces you to the basic control functions which are available on the "simple" side of the remote control unit.

Programme selection

Before selecting programmes make sure that TV channels have been memorized.

Operation	Result
Press PROGR + /– buttons or the number keys of the remote control unit. To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The selected programme number appears on the screen.

Volume control

Operation	Result
Press ◿ + or –.	 The volume indication appears on the screen.

Use of additional functions

Use of other functions with the TV set buttons

It is also possible to select programmes and to adjust the volume by using P→◿→⊖ and →••← + or – buttons, located on the front panel of the TV set.
In this case, press first P→◿→⊖ until the indication P (channel) or ◿ (volume) appears on the screen, and then press →••← + or – buttons.

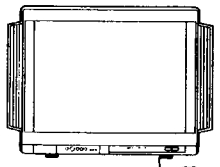
Use of teletext service

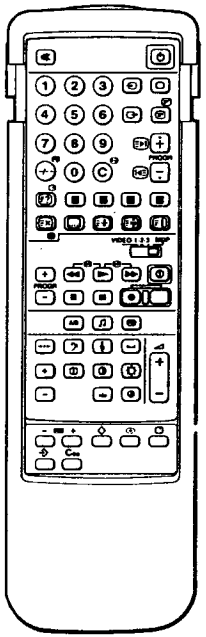
Press ▣. To return to the TV mode, press ▢. For further information on the teletext service

Selection of the video input

Press ⊖. To return to the TV mode, press ▢. For further details.

1-4. SPECIAL FUNCTIONS





This section explains the use of functions for adjusting pictures and sound.
Use the "complete" side of the remote control unit.

Use of special functions

The following functions can be used.

Function	Operation	Reset
Indication display	Press	Press again.
Sound muting	Press	Press again.
Language selection for bilingual programmes.	Press A/B. The selected language is displayed by the relevant indication on the screen.	Press A/B.
Sound adjustment for music programmes.	Press	Press again.
Use of special sound effects.	Press	Press again.
Time display (only during teletext broadcasting).	Press	Press again.

Picture and sound adjustment

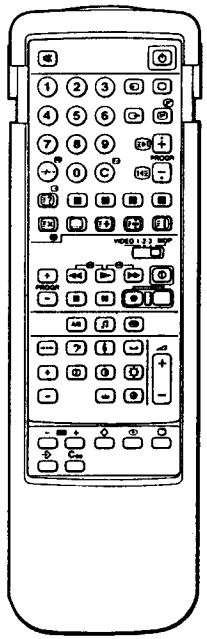
Although the picture and sound have been adjusted at the factory, you might want to adjust them to your own taste. To do this, please follow the steps below.

To Adjust:	Press:	Then:	Result: (+ ↔ –)
Picture:			
Colour intensity		[+] / [–]	More ↔ Less
Contrast			More ↔ Less
Brightness			Bright ↔ Dark
Hue (for NTSC only)			Reddish ↔ Greenish
Sharpness			More ↔ Less
Sound:			
Bass		[+] / [–]	More ↔ Less
Treble			More ↔ Less
Balance			Left ↔ Right

To reset the picture and sound to factory set levels, press →•←.

On the set: Press the →•← and +/– buttons simultaneously.

1-5. USE OF THE TELETEXT SERVICE



Through the teletext service a great deal of information can be received at any time. Broadcasting stations make this service available through TV broadcasts. To use the teletext service, use the green keys on the "complete" side of the remote control unit. When the "simple" side of the remote control unit is used, only the basic functions are available.

How to display teletext service

Operation		Result
1	Select the channel you want to watch.	The channel changes on the screen.
2	Press	 If there is no teletext signal, the indication "Page 100" appears on the screen.
3	Use the number keys of the remote control unit to insert the three figures corresponding to the desired teletext page. **Note** In case of a mistake, press any three numbers, and then repeat the operation with the correct numbers.	The selected page number appears on the screen. After a few seconds, the selected page appears on the screen.
	To return to normal TV programmes: Press .	
	To change teletext channel: First press to return to the TV mode, and then repeat steps 1 to 3.	

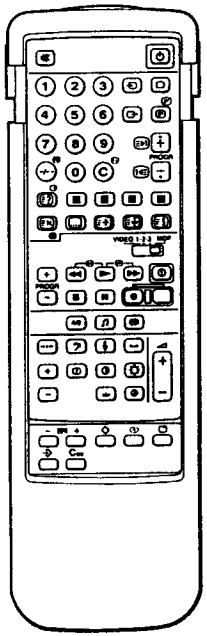
Note: A weak TV signal may cause trouble in the use of teletext.

Use of special teletext functions

Required function	Operation	Result (on the screen)
Page index required.	Press (INDEX).	 Page index appears.
Sub-pages required (page 888).	Press .	The sub-page appears (page 888).
Access to previous or following pages.	Press (PAGE +) or (PAGE –).	 The preceding or the following page appears.

Required function	Operation	Result (on the screen)
Superimposition of the teletext on the TV programme.	In the TV mode, press ⓟ twice. To return to the normal teletext function press ⓟ again.	 Teletext information will appear superimposed on the TV programme.
To prevent page changes due to page updating.	Press ⓢ (STILL). Press ⓟ (TXT/MIX) to return to the normal function.	 The ⓢ (STILL) symbol appears on the screen.
Magnification of teletext characters.	Press ⓔ once to magnify the upper half of the screen. Press twice to magnify the lower half of the screen. By pressing the button three times the normal vision is restored.	 The upper or the lower half of the page is magnified.
Display of hidden information (answers to quizzes, etc.).	Press ⓡ (RIV). Press again to hide the answers.	 The information is displayed.
Watching a programme while the teletext searches for the required page.	1. Ask again for the page.	The number is displayed.
	2. Press ⓢ	TV programme is displayed.
	3. When the required page has been found, the page number will be displayed.	
	4. Press ⓟ to display the page.	The desired page will be displayed.
Display of a page at a preset time.	1. Request the page.	The selected page will be displayed.
	2. Press ⓜ (MEM.T).	In the lower part of the screen the indication "T****" appears.
	3. Set the required time by using the number keys, and by inputting four figures (e.g. 0730 for "7:30").	The required time is displayed on the screen.
	To watch TV programmes until a preset time Press ⓒ (CANC.). At the required time, the selected page appears in the upper part of the screen. Press ⓟ to display the page. **To cancel the request** Display the teletext page and then press ⓒ (CANC.M.).	

Note: Depending on the teletext service, certain functions may not be available.



Use of the FASTEXT function

The FASTEXT function allows rapid access, at the touch of a single button, to the teletext functions. In the lower part of the screen, a colour coded index will be displayed when a FASTEXT teletext page is broadcasted. Each colour corresponds to the colored keys on the remote control unit.

Operation

Operation	Result
Press one of the coloured keys on the remote control unit corresponding to the coloured indications of the FASTEXT teletext page.	The selected teletext page appears on the screen.

Note:
The correct use of the FASTEXT function depends on the signal being broadcast by the TV stations. Some TV stations may not broadcast FASTEXT teletext signal.

1-6. CONNECTIONS AND OPTIONAL FUNCTIONS

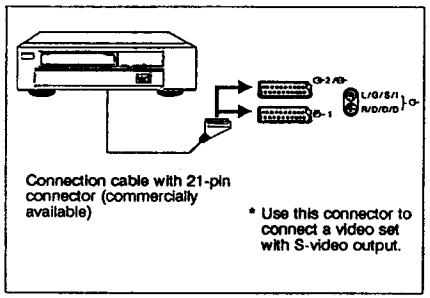
This TV set may be connected to other audio/video machines, such as videocameras, VTRs, videodisc players, or stereo systems.

Connection to an external audio/video system

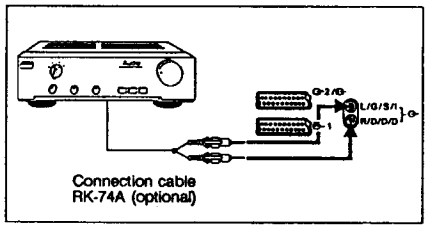
This TV set incorporates three groups of connectors, for input and output to the TV signal. Each group has the following characteristics.

Connector	Input signal	Output signal
8-1	Normal audio/video signal or RGB signal	TV tuner audio/video signal
2/8	Normal audio/video signal and S-video signal	Audio/video signal from a selectable source
3, 3, 3 front panel	Normal audio/video signal and S-video signal	No signal

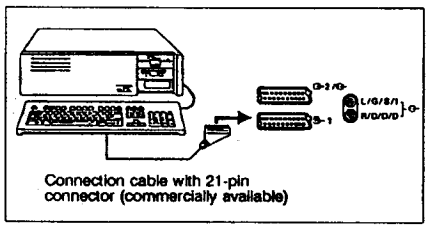
Connection of a TV set



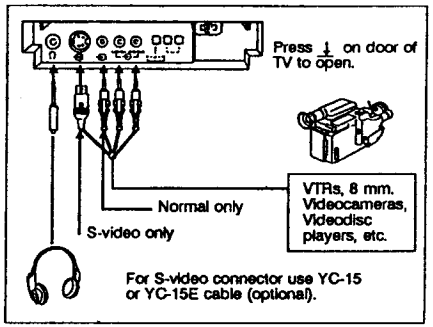
Connection of an audio unit



Connection to a computer with RGB output



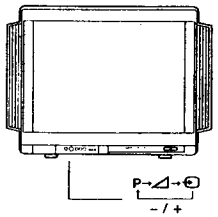
Temporary connection of video apparatus
For a temporary connection (e.g. of a videocamera) use the front panel terminals.

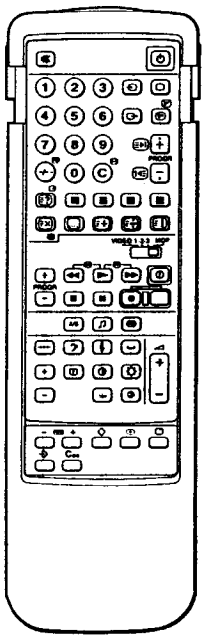


Connection of a videotape recorder through the T connector
Connect the antenna input (AERIAL-IN) of the TV set to the antenna output (AERIAL-OUT) of the videotape recorder.

S-video input (Y/C input)
The video signal is formed by two separate signals: the luminance (Y) and the chrominance (C). Through the separation of the two signals it is possible to improve picture quality (luminance in particular), preventing reciprocal interference. This TV set features two S-video sockets able to directly receive this type of signal.

Pictures with distortion
Move the TV set away from the videotape recorder if pictures or sound become distorted.





Video programme playback

Using the input selector, pictures coming from a videotape recorder connected to the TV sets input may be played back.

Operation

Operation	Result
Select the desired video input by pressing 3 repeatedly.	 The symbol of the selected input appears on the screen (see table below).
Press ▢ button to return to TV mode.	

Selectable inputs

Symbol	Selected input
31	Audio/video signal from 8-1 connector.
3	RGB signal from 8-1 connector.
32	Audio/video signal from 2/8 connector.
32	S-video signal (from a VTR with S-video output) from 2/8 connector.
33	Audio/video signal from 3, 3 connector located on the front panel.
33	S-video signal from S-video 3 (4 pin) connector located on the front panel.
Input can be selected also with the P buttons of the TV set. In this case, first select 3, and then press the + /– buttons to select the desired input.	

Selection of video output

The 2/8 connector may output 4 video signals. Select the outgoing video signal in the following way.

Operation

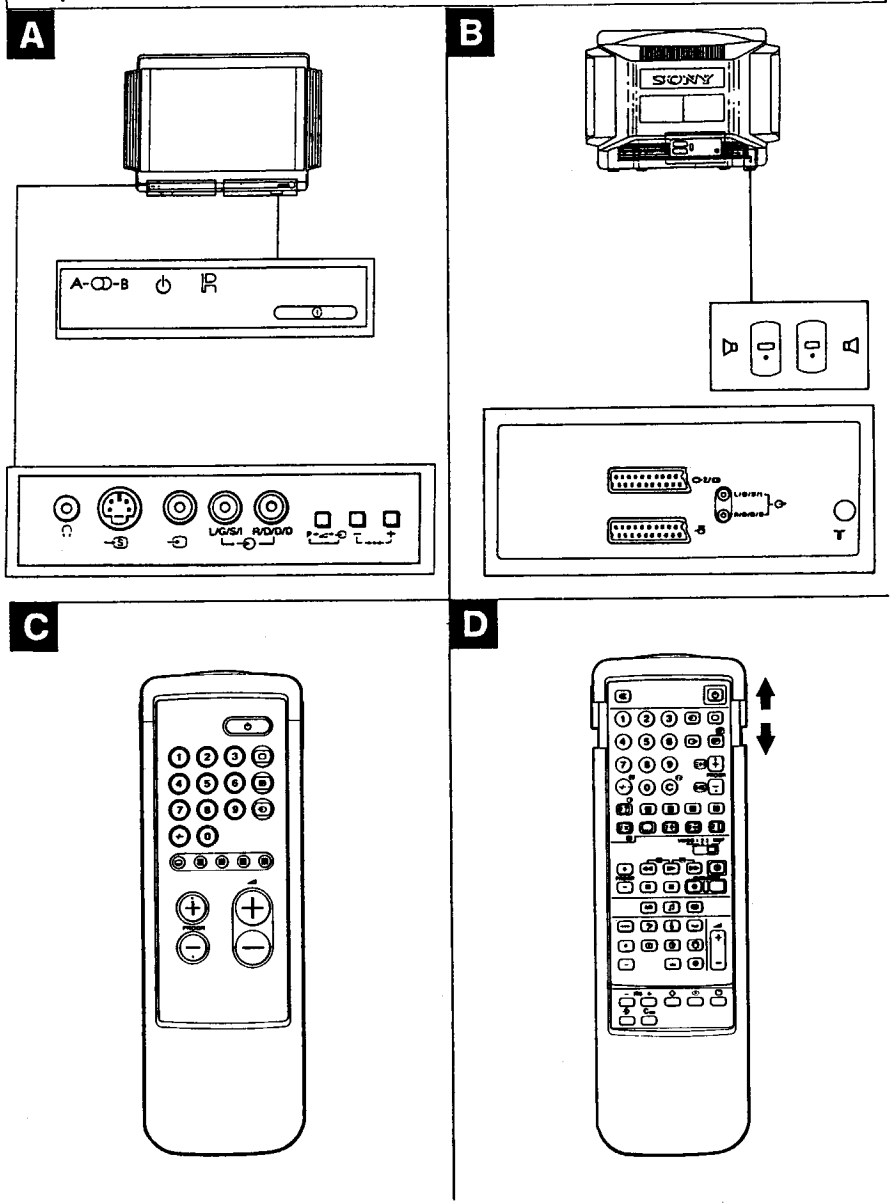
Operation	Result
Press 2 repeatedly to select the desired video output.	 The selected video output symbol appears on the screen (see the table following).

Output signal

Symbol	Selected output
1 2	Audio/video signal from 8-1 connector.
2 2	Audio/video signal from 2/8 connector.
3 2	Audio/video signal from 3 and 3 connectors.
TV 2	Audio/video signal from T-type antenna connector T.

1-7. GENERAL INFORMATION

Components identification



This section briefly describes controls of the TV set and the remote control unit, and their relevant functions.

A	TV set front panel
Indication	Description
⏻	Power switch
⏻	Standby switch
A - ◯ - B	Bilingual function indications
🎧	Headphones connector (stereo mini-jack)
	Input connectors (S-video/video/audio)
P	Function selector (programme/volume/input)
− +	Function adjustment keys

B	TV set rear panel
Indication	Description
	Speaker connectors (upper: left speaker; lower: right speaker)
2/	Connector 2, Euro AV (SCART, 21-pin). S-video in/video in/TV/video out signals.
1	Connector 1, Euro AV (SCART, 21-pin). RGB in/video in/TV/out signals.
	Audio output connectors (RCA pin)
	Antenna connector (of IEC standard)

C	Remote control unit — simplified side
Indication	Description
	Input selector
	Teletext service key
	FASTEXT operation buttons
	TV set power switch and TV mode selector
⏻	Standby key
1,2,3,4,5, 6,7,8,9,0	Number keys
-/--	Channel selection key/ 2-figure programmes
+ /-	Volume adjustment key
PROGR + /-	Programme selection key

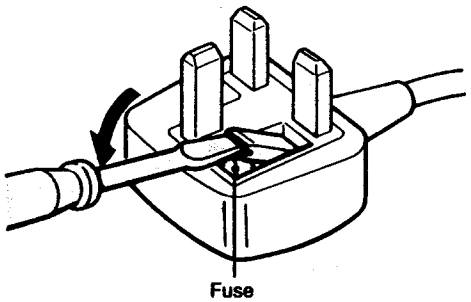
D	Remote control unit — complete side
Indication	Description
	Sound muting key
⏻	Standby key
1,2,3,4,5, 6,7,8,9,0	Number keys
	Input selector
	TV set power switch and TV mode selector
	Output selector
	Teletext key
	Music programme key
A/B	Bilingual programmes language selection
-/--	Channel selection key/ 2-figure programmes
C	Channel direct selection key
	Special sound effect key
	Time display
	Teletext operation keys
	FASTEXT operation buttons
	Display key
	Reset key
+ /-	Volume adjustment keys
PROGR + /-	Programme selection keys
	Image and audio adjustment keys
VIDEO 1/2/3, MDP	Video unit selector
	Video units function key
C⊘⊘	Programme cancelling key
	Channel presetting key
- +	Channel tuning keys
◇	Channel storing keys
	Broadcasting stations identification key

• **CAUTION**

The flexible mains lead is supplied connected to a B.S. 1363 fused plug having a fuse of 5 amp capacity. Should the fuse need to be replaced, use a 5 AMP FUSE approved by ASTA to BS 1362, i.e., carries the ⓐ mark.

How to replace the fuse

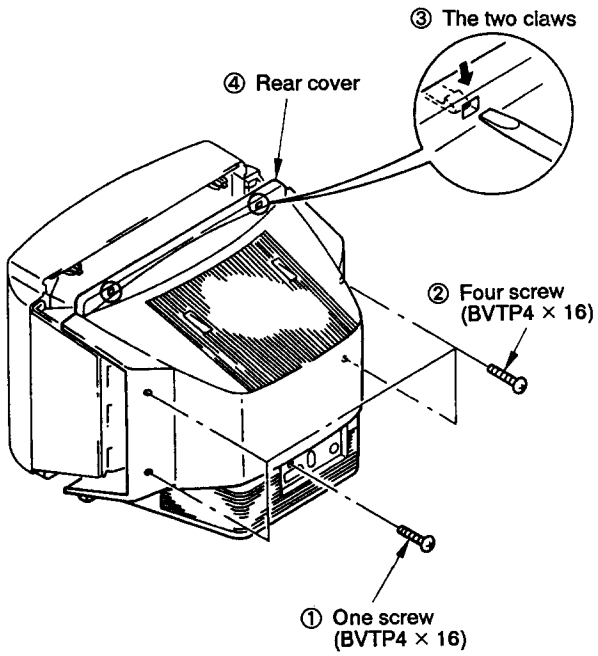
Open the fuse compartment with the blade screwdriver, and replace the fuse.



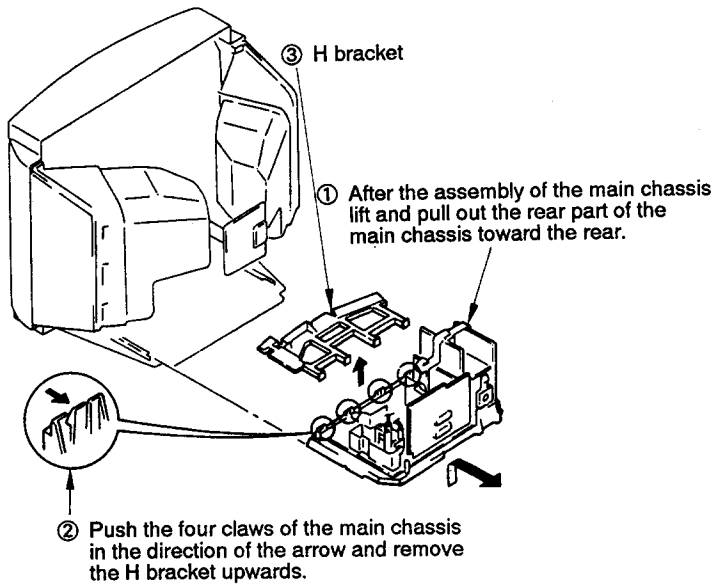
Fuse

SECTION 2
DISASSEMBLY

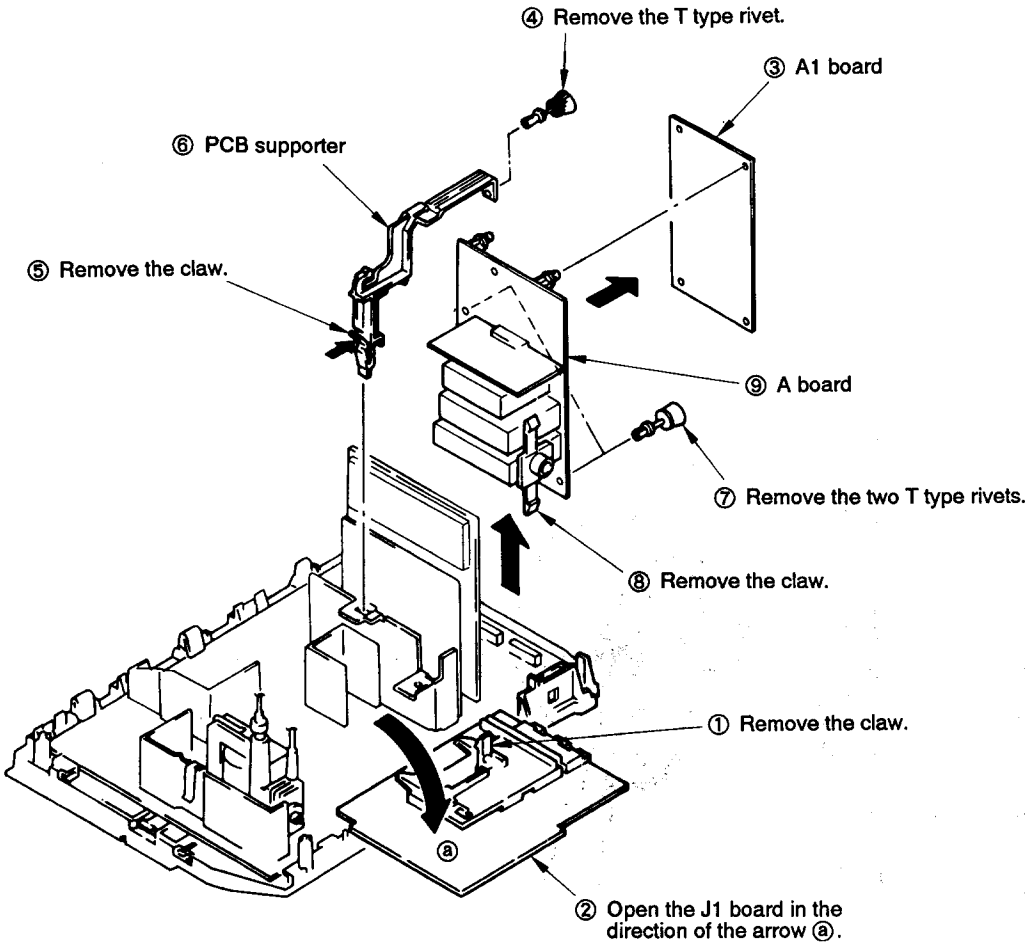
2-1. REAR COVER REMOVAL



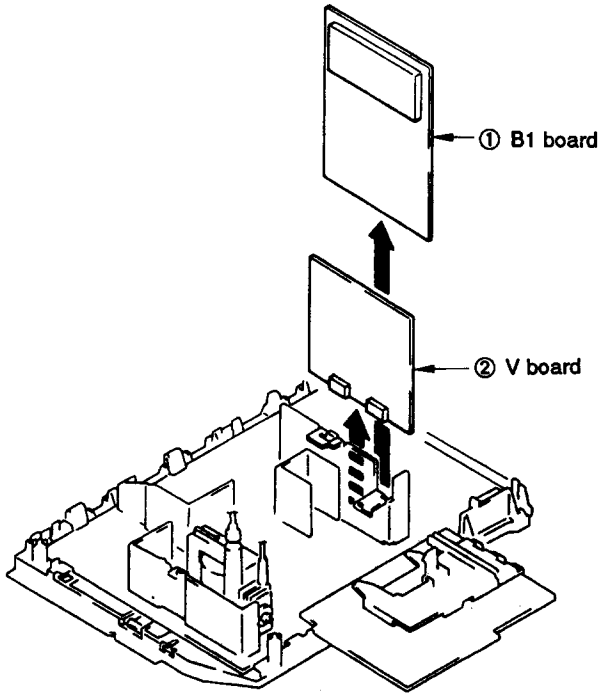
2-2. CHASSIS ASSEMBLY REMOVAL



2-3. A, A1 AND J1 BOARDS REMOVAL



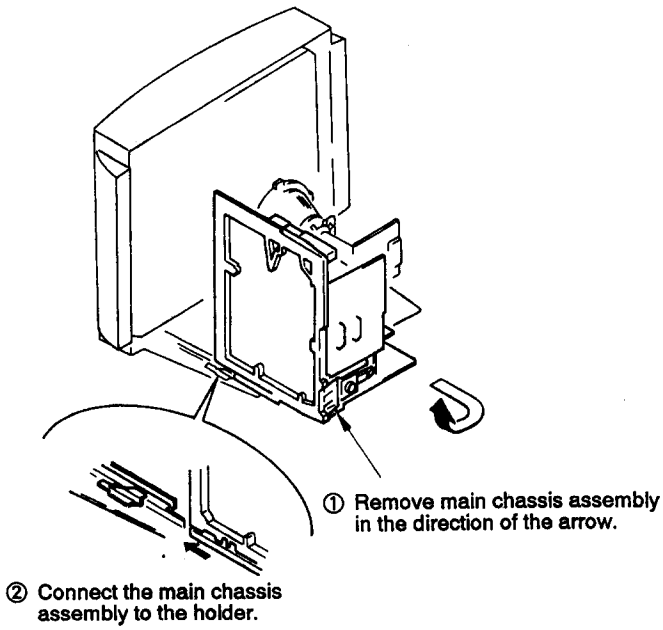
2-4. B1 AND V BOARDS REMOVAL



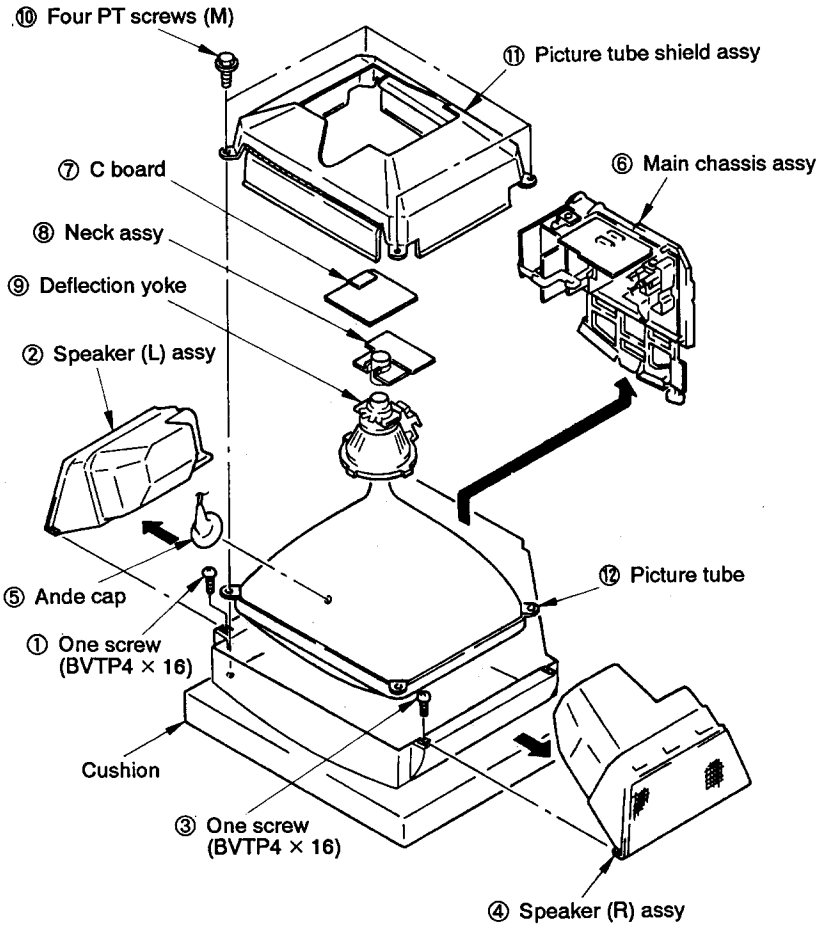
Note : 10 pin extension cable (S-0945-001-0)

2-5. SERVICE POSITION

※ Remove the H bracket from the main assembly and then perform the following servicing.



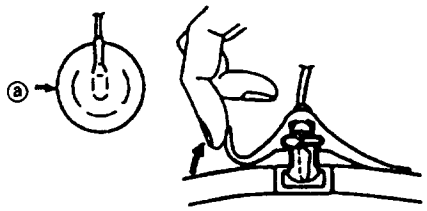
2-6. PICTURE TUBE REMOVAL



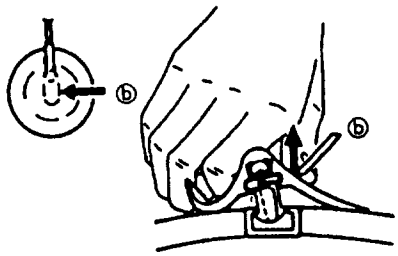
• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

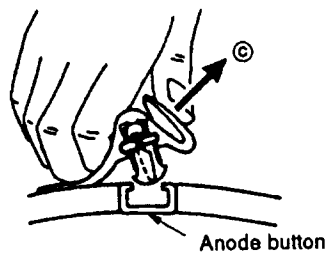
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



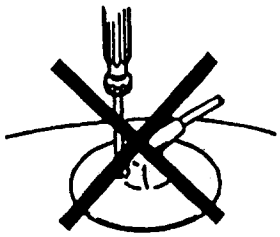
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

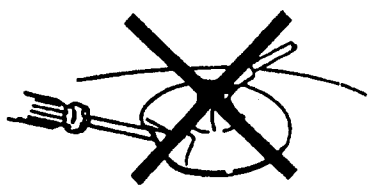
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECITON 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :
  - ◑ Contrast ·····80%
    (or remote control normal)
  - ☼ Brightness ·····50%
- Carry out the following adjustments in this order:
  1. Beam landing
  2. Convergence
  3. Focus
  4. White balance

Note : Testing equipment required
1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :
- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast
   Bightness } normal
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

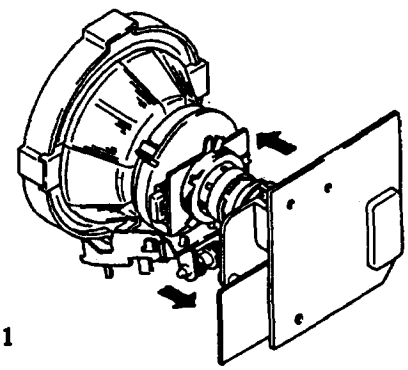
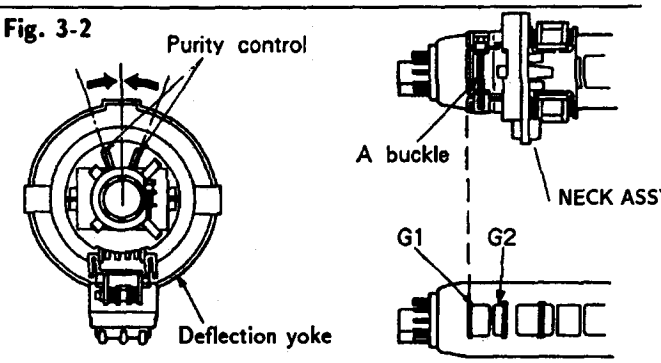


Fig. 3-1

Fig. 3-2



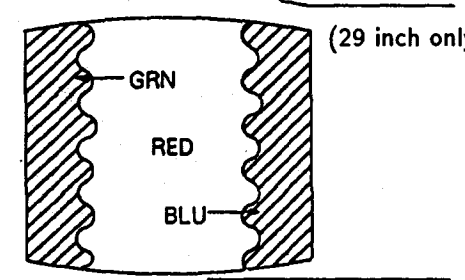


Fig. 3-3

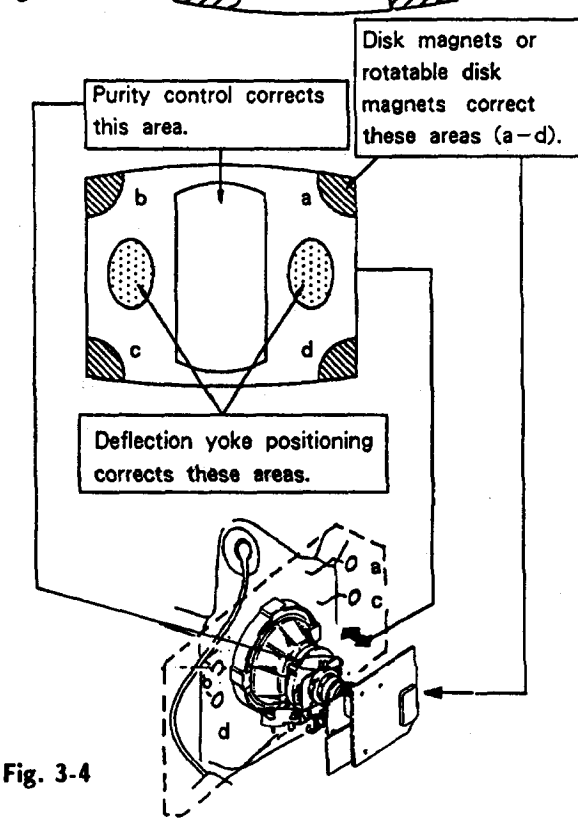


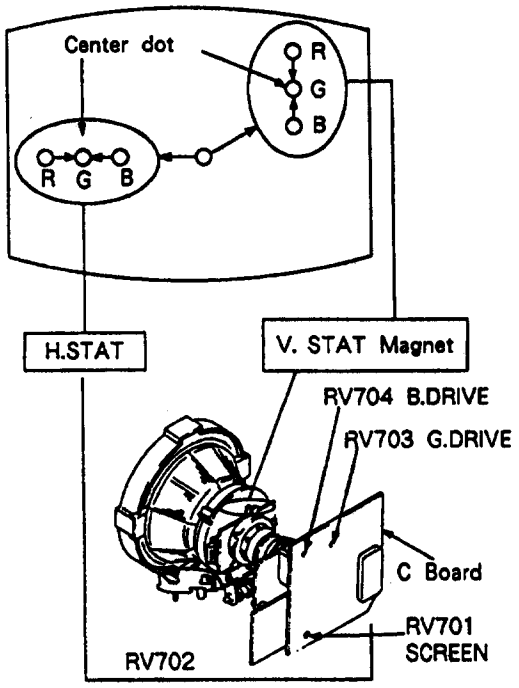
Fig. 3-4

3-2. CONVERGENCE

Preparations :

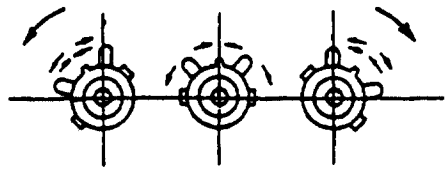
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

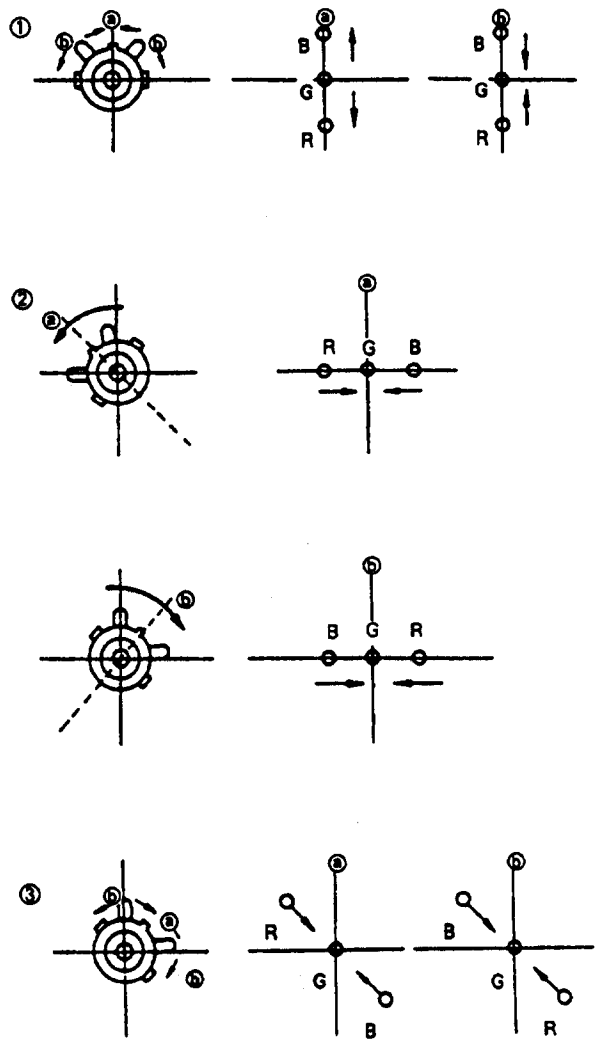


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

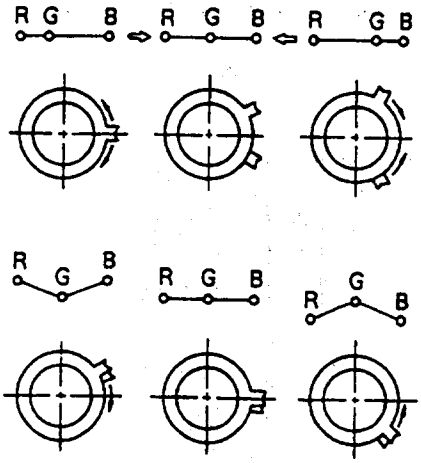
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

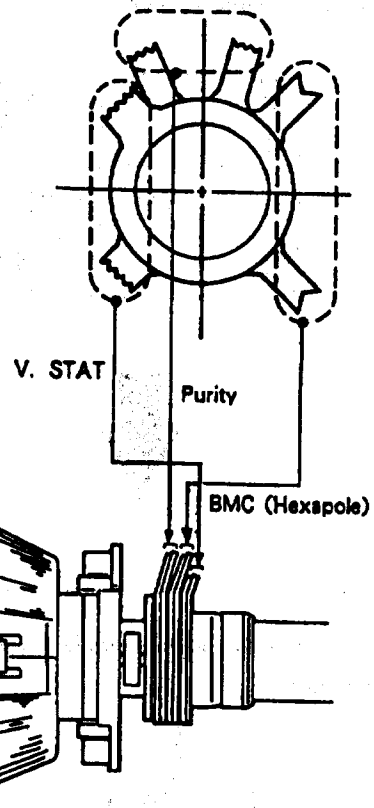


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet



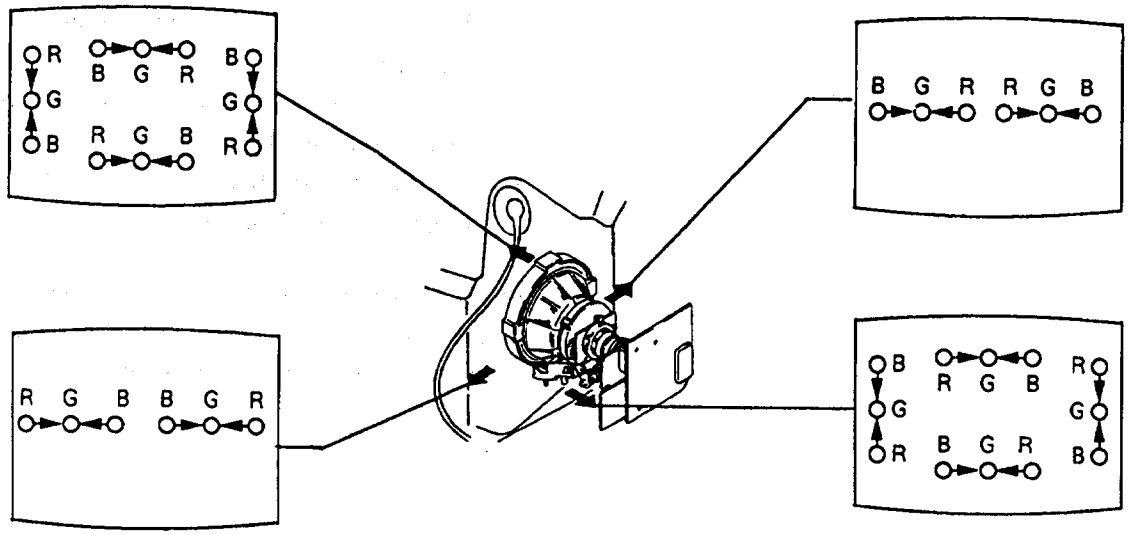


- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

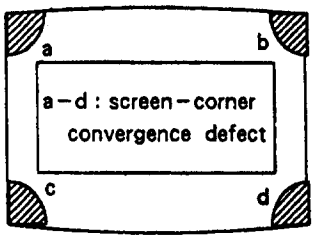
(2) Dynamic convergence adjustment
Preparations :

Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

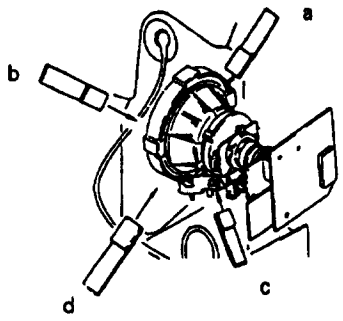
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the defelection yoke spacer.



(3) Screen corner convergence



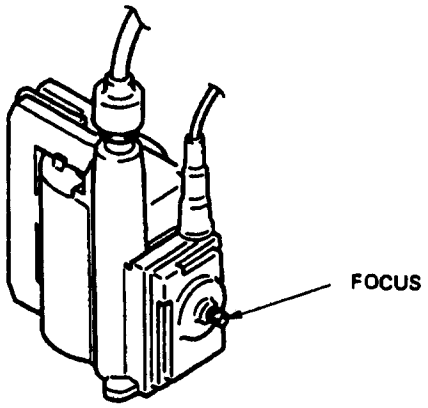
Install the permalloy assembly for the section with faulty.



Permalloy

3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

[Screen G2 setting]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

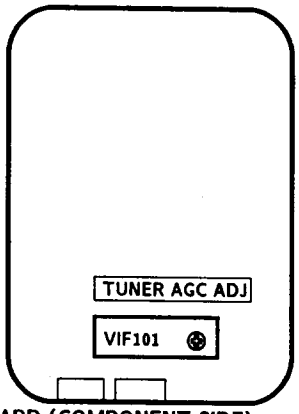
[White balance adjustment]

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS

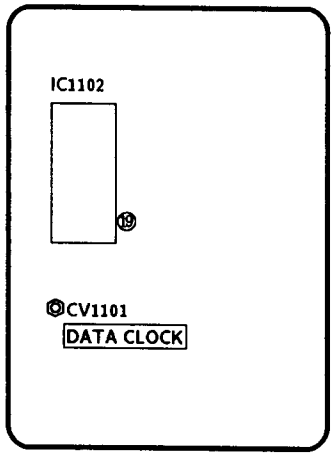


A BOARD (COMPONENT SIDE)

TUNER AGC ADJUSTMENT (AGC VR)

1. Align with an appropriate signal between stations.
2. Adjust AGC VR so that snow noise and cross modulation just disappear from the picture.

4-2. A1 BOARD ADJUSTMENT

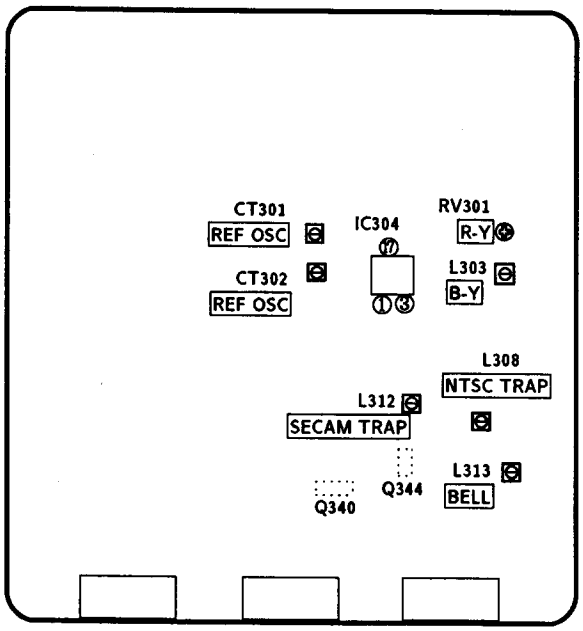


A1 BOARD (COMPONENT SIDE)

DATA CLOCK Adjustment (CV1101)

1. Tune in a no signal.
2. Connect a frequency counter to pin ⑲ of IC1102 (PCLK) through a probe of 10:1.
3. Adjust CV1101 (DATA CLOCK) so that frequency becomes 728.022KHz±1Hz.

4-3. B1 BOARD ADJUSTMENTS



B1 BOARD (COMPONENT SIDE)

REFERENCE OSCILLATOR ADJUSTMENT (CT302 8.8MHz)

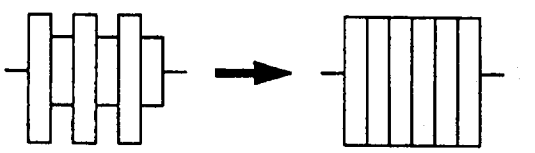
1. Input a PAL color bar signal.
2. Ground pin ⑰ of the IC304.
3. Adjust CT302 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT301 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑰ of IC304.
3. Adjust the CT301 to obtain synchronization.
4. Remove the jumper grounding pin ⑰ of IC304.

BELL FILTER ADJUSTMENT (L313)

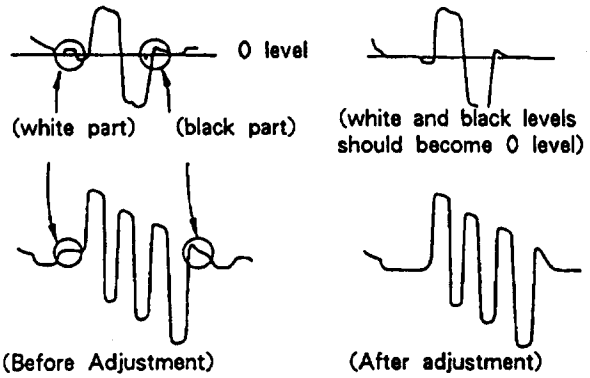
1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.



<Before Adjustment> <After Adjustment>

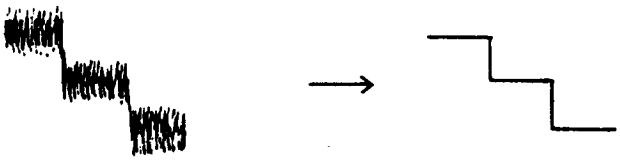
DISCRIMINATION ADJUSTMENTS (RV301 and L303)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC304.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level.
   Connect the oscilloscope to pin ③ of IC304.
4. Adjust L303 until the white and black sections of
5. the waveform at pin ③ are at the 0 level.



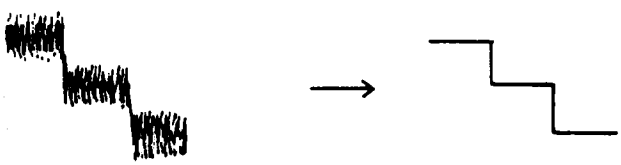
SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

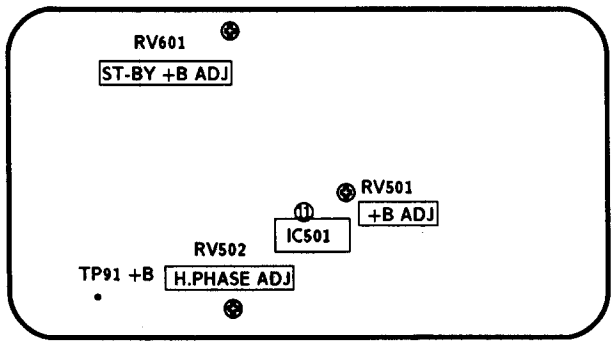


NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



4-4. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

+B ADJUSTMENT (RV501)

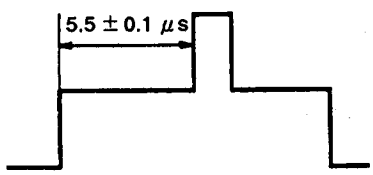
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain 135±0.2V.

ST-BY +B ADJUSTMENT (RV601)

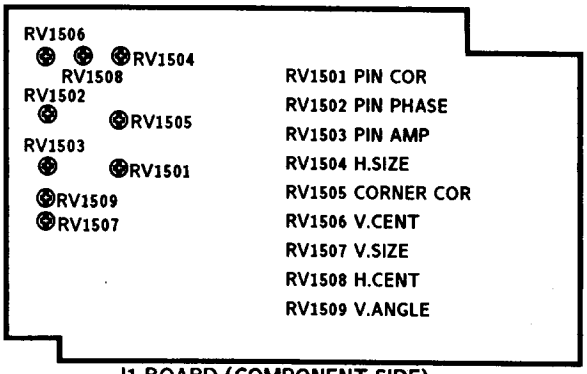
1. Put the system into ⏻ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain 135±3V.
4. Take the system out of ⏻ standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to 5.5 ± 0.1 μs.

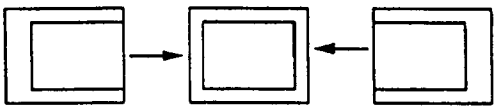


4-4. J1 BOARD ADJUSTMENTS

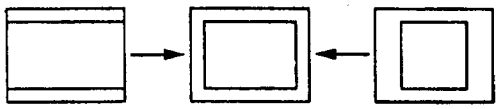


J1 BOARD (COMPONENT SIDE)

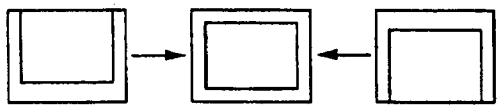
RV1508
H. CENT (HORIZONTAL CENTER)



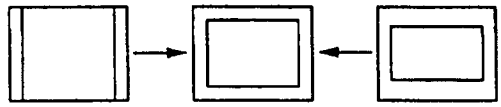
RV1504
H. SIZE (HORIZONTAL SIZE)



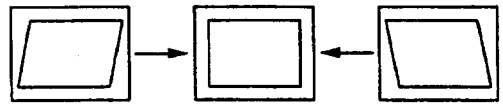
RV1506
V. CENT (VERTICAL CENTER)



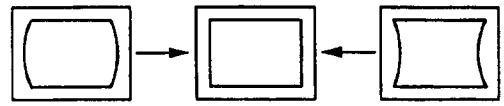
RV1507
V. SIZE (VERTICAL SIZE)



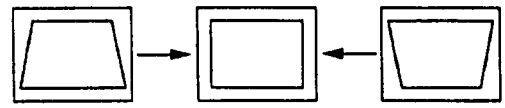
RV1509
V. ANGLE (VERTICAL ANGLE)



RV1503
PIN AMP (PINCUSHION AMPLIFIER)



RV1502
PIN PHASE (PINCUSHION PHASE)



RV1501
PIN. COR (PINCUSHION CORRECT)

RV1505
CORNER COR (CORNER CORRECT)

4-5. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and − simultaneusly, turn on the power. (SUB mode is obtained)
5. Minimize the ◑ contrast setting.
6. Adjust the ☼ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the ◇ (store) button of the remote commander.
   (SUB mode is released)

   If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
   Set the ◕ color to its normal state.

3-5. Steps are the same as above.

6. Since 20 IRE is nearly blue, adjust the ☼ brightness control so that the blue barely glows.

7. Same as step 7 above.

8. Press → • ← on the remote commander to put the system into normal mode.

4-7. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and − simultaneusly, turn on the power. (SUB mode is obtained)
5. Minimize the ◑ contrast setting.
6. Adjust the ☼ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the ◇ (store) button of the remote commander.
   (SUB mode is released)

   If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
   Set the ◑ color to its normal state.

3-5. Steps are the same as above.

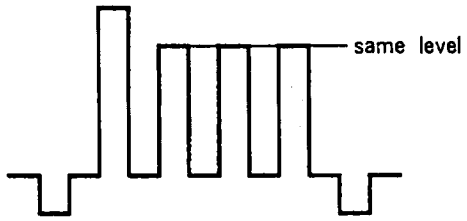
6. Since 20 IRE is nearly blue, adjust the ☼ brightness control so that the blue barely glows.

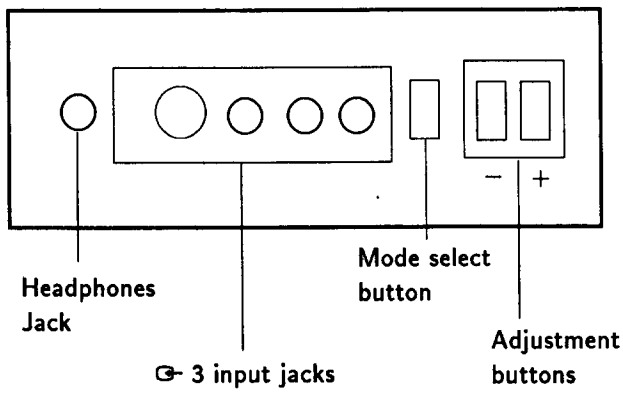
7. Same as step 7 above.

8. Press → • ← on the remote commander to put the system into normal mode.

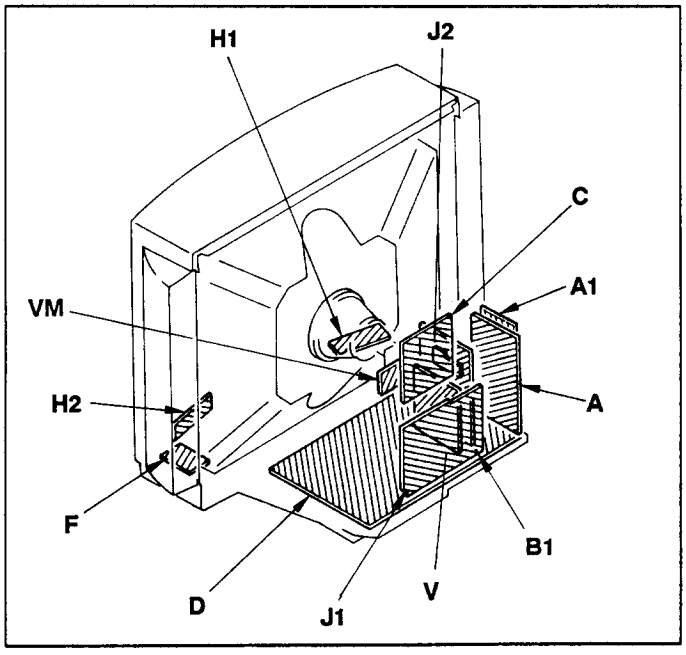
SUB COLOR ADJUSTMENT

1. Set the system to receive color bars.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and − simultaneusly, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the ◇ (store) button of the remote commander. (SUB mode is released)





5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS – Conductor Side –

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  kΩ =1000Ω , MΩ =1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power ¼ W
- : nonflammable resistor.
- △ : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- : no mounted.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a color-bar signal input.
- Readings are taken with a 10MΩ digital maltimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage varietions may be neted due to normal production tolerances.
- All voltages are in V.
- Circuled numbers are waveform references.
- : B+ bus.
- : signal path.(RF)

4-6. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and − simultaneusly, turn on the power. (SUB mode is obtained)
5. Minimize the ◑ contrast setting.
6. Adjust the ☼ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the ◇ (store) button of the remote commander.
   (SUB mode is released)

   If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
   Set the ◑ color to its normal state.

3-5. Steps are the same as above.

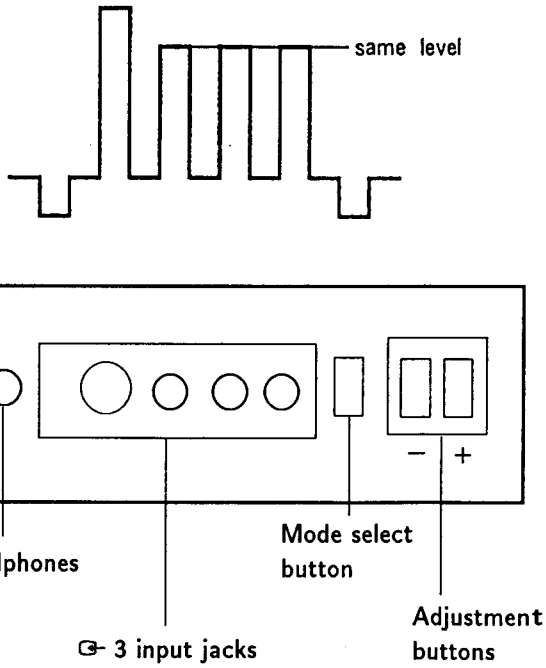
6. Since 20 IRE is nearly blue, adjust the ☼ brightness control so that the blue barely glows.

7. Same as step 7 above.

8. Press → • ← on the remote commander to put the system into normal mode.

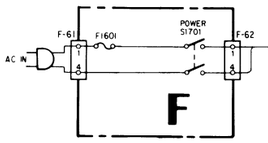
SUB COLOR ADJUSTMENT

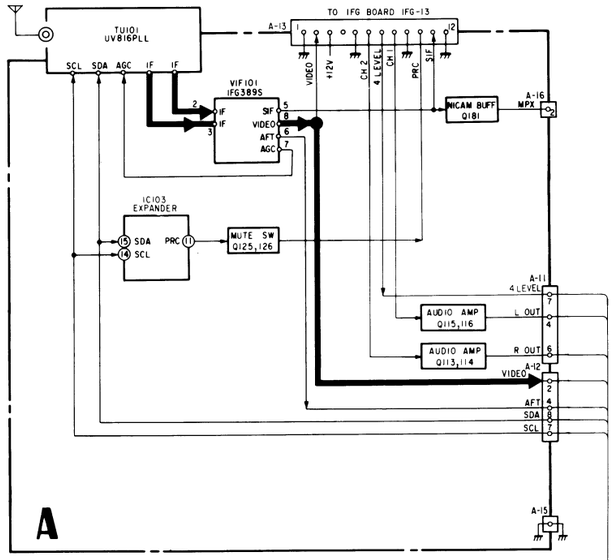
1. Set the system to receive color bars.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and − simultaneusly, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the ◇ (store) button of the remote commander. (SUB mode is released)

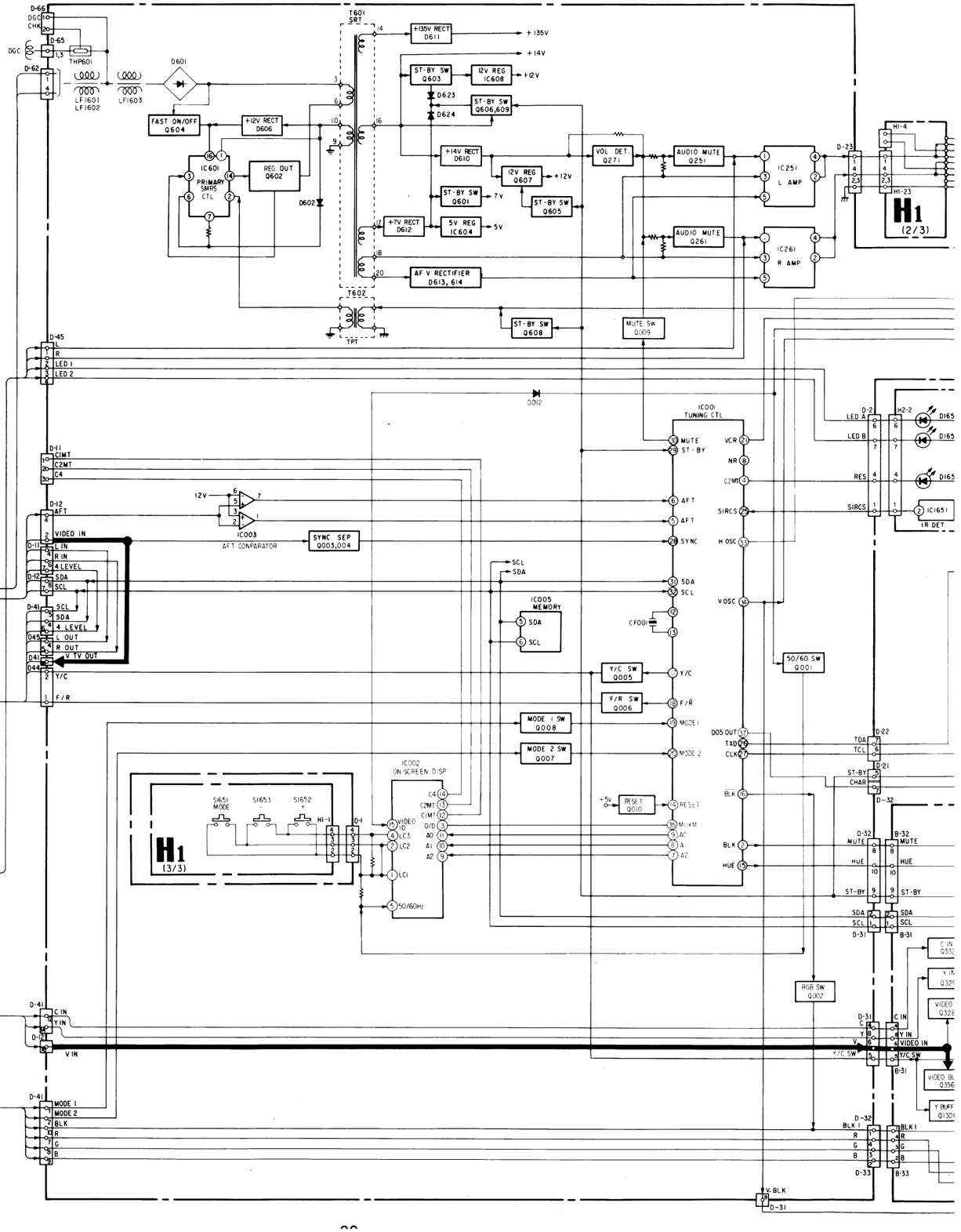


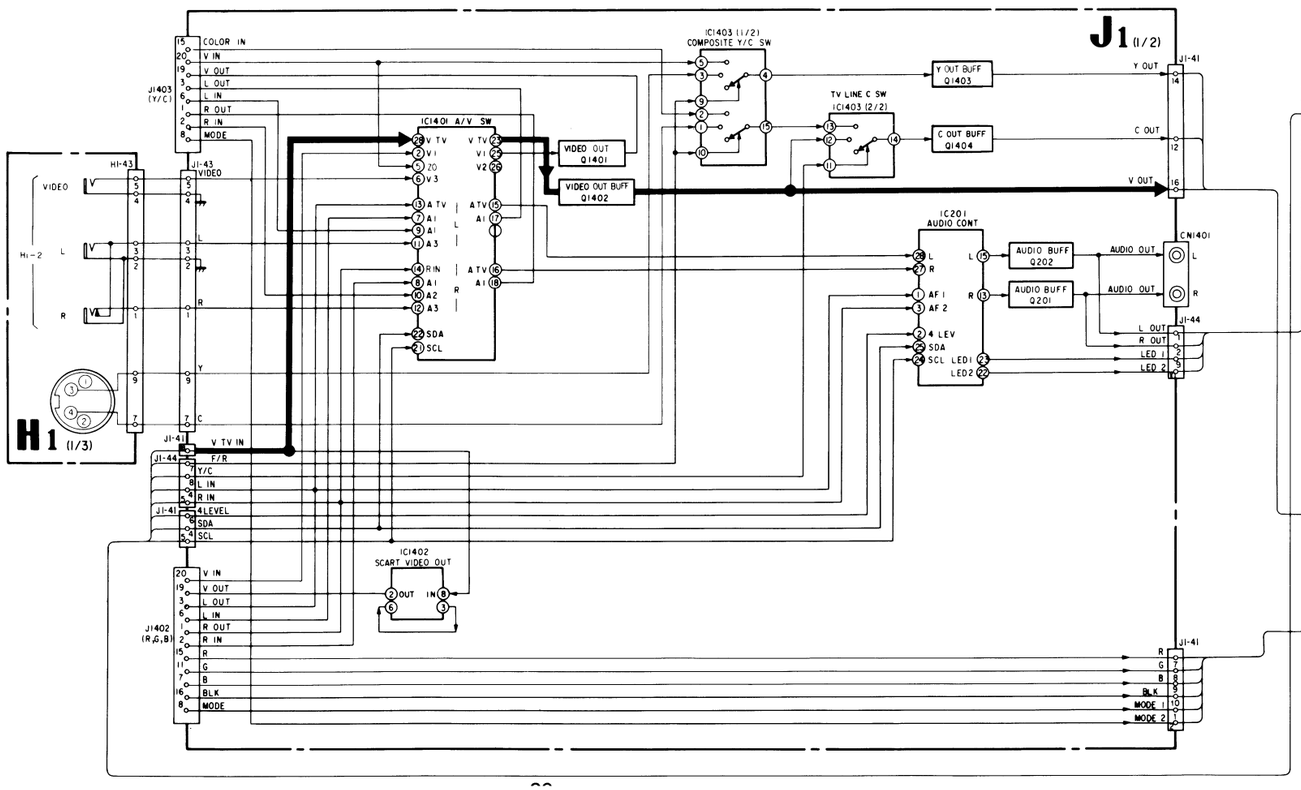
5-1. BLOCK DIAGRAM

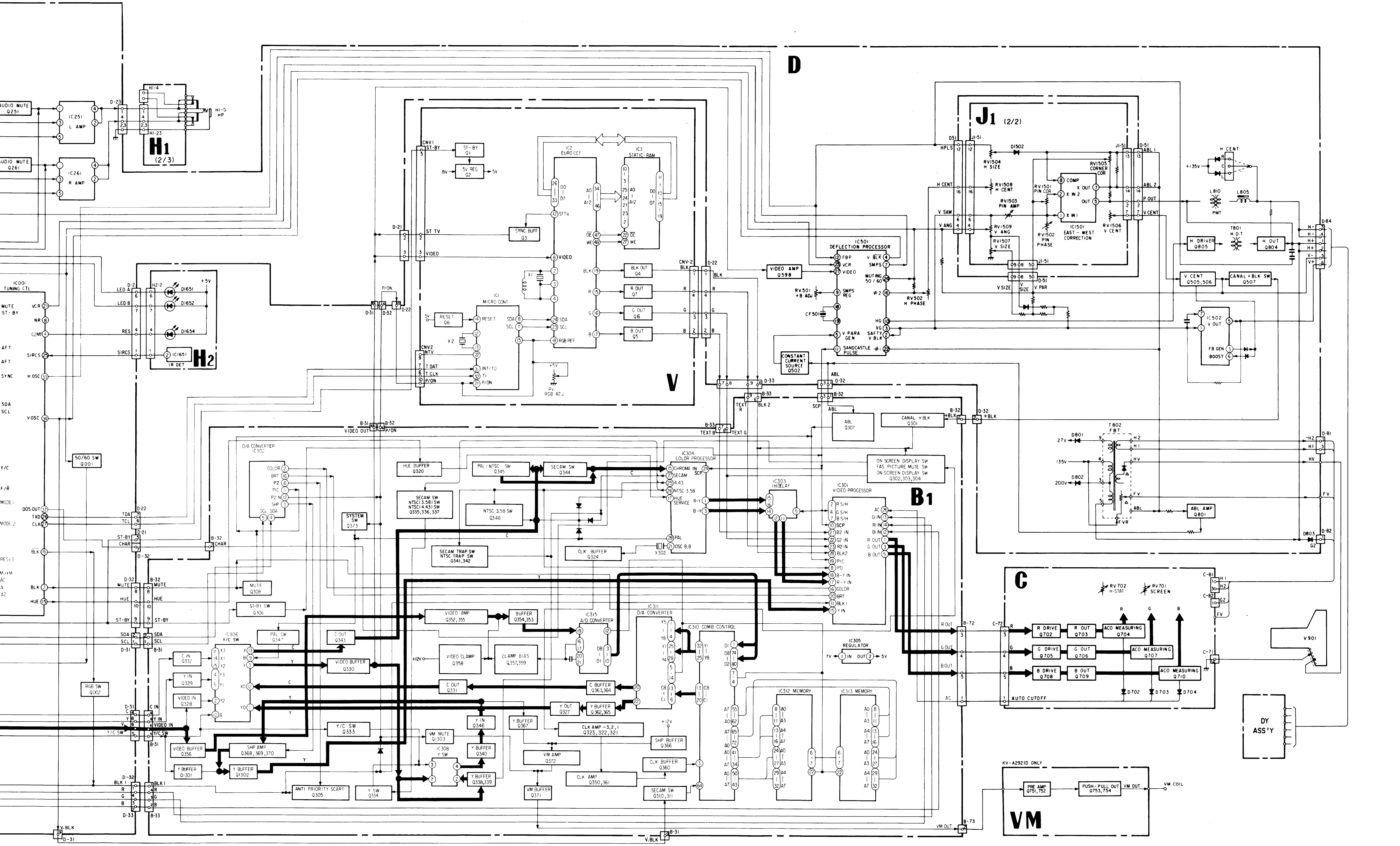
SECTION 5
DIAGRAMS





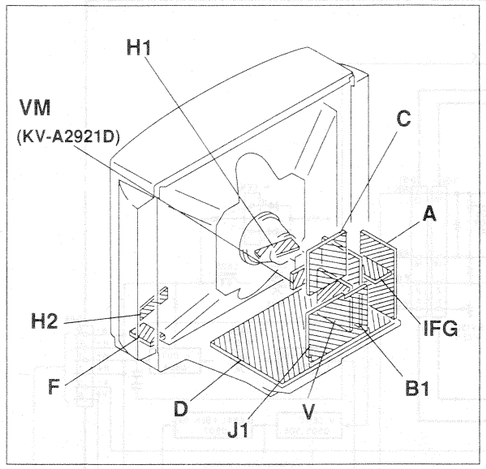






D
H1 (2/3)
H2
J1 (2/2)
V
B1
C
VM
IC251 L AMP
IC261 R AMP
AUDIO MUTE Q251
AUDIO MUTE Q261
IC001 TUNING CTL
IC1651 IR DET
ST-BY Q1
5V REG Q2
IC2 EURO CCT
IC3 STATIC-RAM
SYNC BUFF Q3
IC1 MICRO CONT
RESET Q8
BLK OUT Q4
R OUT Q7
G OUT Q6
B OUT Q5
RV1 RGB ADJ
VIDEO AMP Q598
IC501 DEFLECTION PROCESSOR
CONSTANT CURRENT SOURCE Q502
RV501 +B ADJ
RV502 H PHASE
RV1504 H SIZE
RV1508 H CENT
RV1503 PIN AMP
RV1501 PIN COR
RV1509 V ANG
RV1507 V SIZE
RV1502 PIN PHASE
RV1505 CORNER COR
RV1506 V CENT
IC1501 EAST-WEST CORRECTION
H CENT
L810 PMT
L805
T801 H.D.T
H DRIVER Q805
H OUT Q804
V CENT Q505,506
CANAL +BLK SW Q507
IC502 V OUT
FB GEN
BOOST
ABL Q307
CANAL +BLK Q301
ON SCREEN DISPLAY SW FAS PICTURE MUTE SW ON SCREEN DISPLAY SW Q302,303,304
T802 FBT
ABL AMP Q801
D/A CONVERTER IC302
HUE BUFFER Q320
PAL/NTSC SW Q345
SECAM SW Q344
IC304 COLOR PROCESSOR
IC303 1H DELAY
IC301 VIDEO PROCESSOR
SECAM SW NTSC(3.58) SW NTSC(4.43) SW Q335,336,337
NTSC 3.58 SW Q348
SYSTEM SW Q373
SECAM TRAP SW NTSC TRAP SW Q341,342
CLK BUFFER Q324
MUTE Q308
ST-BY SW Q306
50/60 SW Q001
RGB SW Q002
IC306 Y/C SW
PAL SW Q347
C OUT Q343
VIDEO AMP Q352,355
BUFFER Q354,353
IC315 A/D CONVERTER
IC311 D/A CONVERTER
IC310 COMB CONTROL
IC305 REGULATOR
VIDEO CLAMP Q358
CLAMP BIAS Q357,359
VIDEO BUFFER Q330
C IN Q332
Y IN Q329
VIDEO IN Q328
C OUT Q331
C BUFFER Q363,364
Y OUT Q327
Y BUFFER Q362,365
Y/C SW Q333
Y IN Q346
VM MUTE Q1303
IC308 Y SW
Y BUFFER Q340
Y BUFFER Q338,339
Y BUFFER Q367
CLK AMP -3,2,1 Q323,322,321
SHP BUFFER Q366
VM AMP Q372
CLK BUFFER Q360
CLK AMP Q350,361
VM BUFFER Q371
SECAM SW Q310,311
IC312 MEMORY
IC313 MEMORY
VIDEO BUFFER Q356
SHP AMP Q368,369,370
Y BUFFER Q1301
Y BUFFER Q1302
ANTI PRIORITY SCART Q305
Y SW Q334
RV702 H-STAT
RV701 SCREEN
R DRIVE Q702
R OUT Q703
ACO MEASURING Q704
G DRIVE Q705
G OUT Q706
ACO MEASURING Q707
B DRIVE Q708
B OUT Q709
ACO MEASURING Q710
AUTO CUTOFF
V901
DY ASS'Y
KV-A2921D ONLY
PRE AMP Q751,752
PUSH-PULL OUT Q753,754
VM COIL

5-2. CIRCUIT BOARDS LOCATION



5-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

— Conductor Side —

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W
- METAL FILM (:RN) resistors in 1%, 1/6W unless otherwise secified.
- : nonflammable resistor.
- △: internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- : B+ bus.
- : signal path. (RF)
- Circuled numbers are waveform references.

Reference information

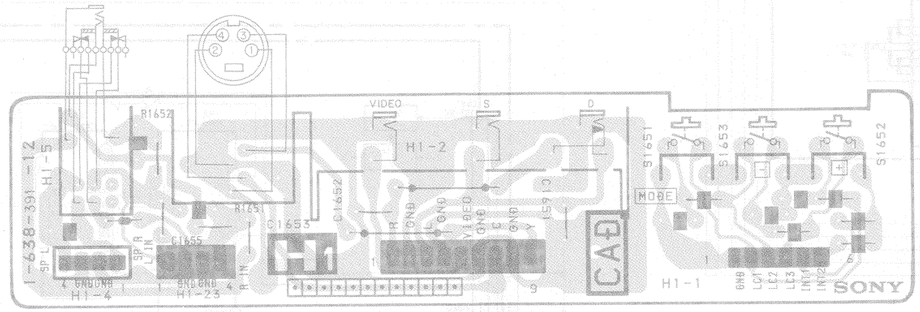
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METALOXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

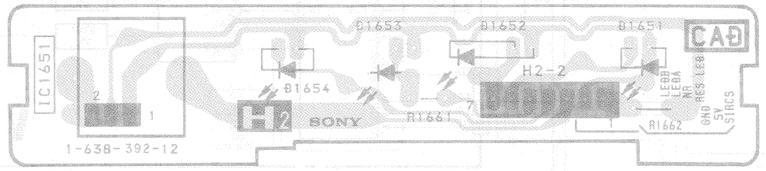
H1 [CONTROL SW, AV INPUT, HEADPHONE] **H2** [SIRCS RECEIVER, INDICATOR] **F** [AC IN, POWER SW]

A [TUNER

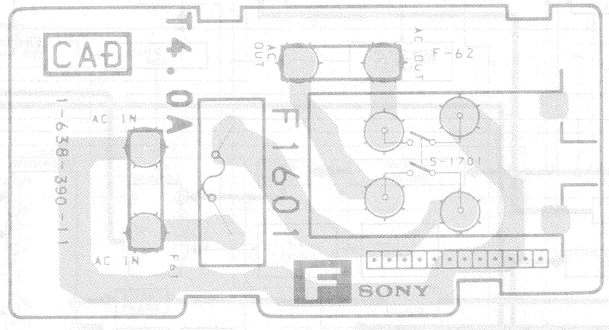
— H1 Board —



— H2 Board —

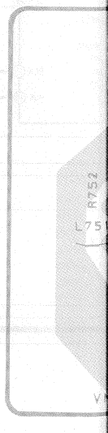


— F Board —



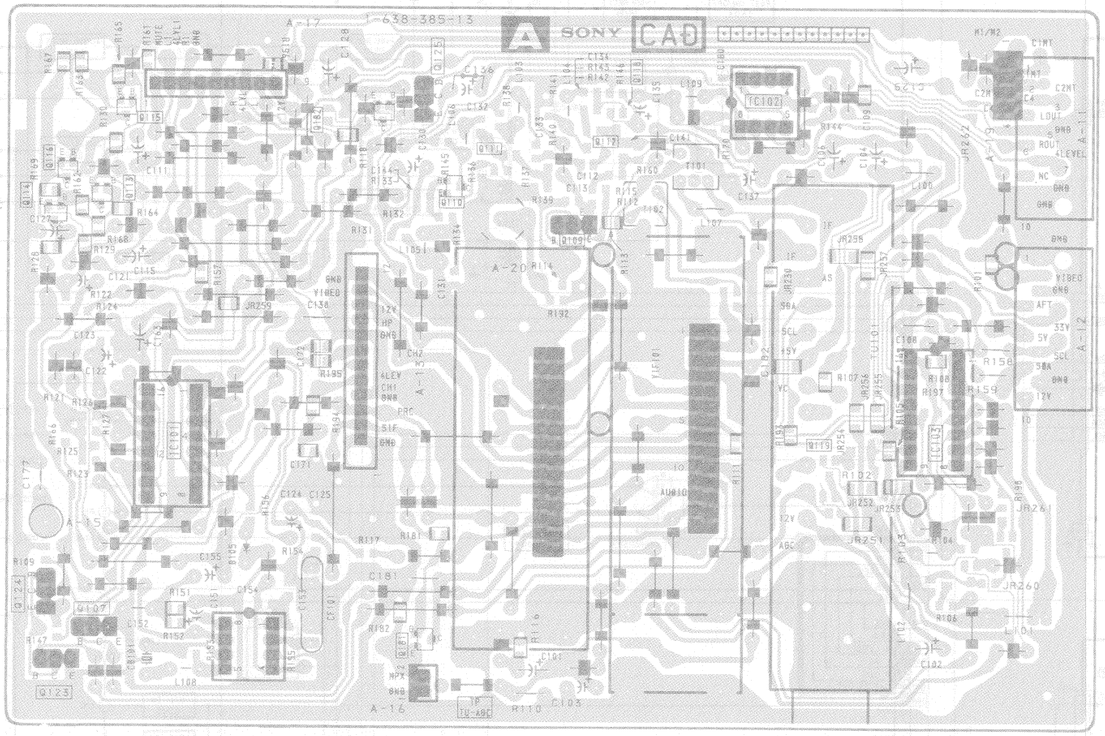
— A Board

— VM Boa

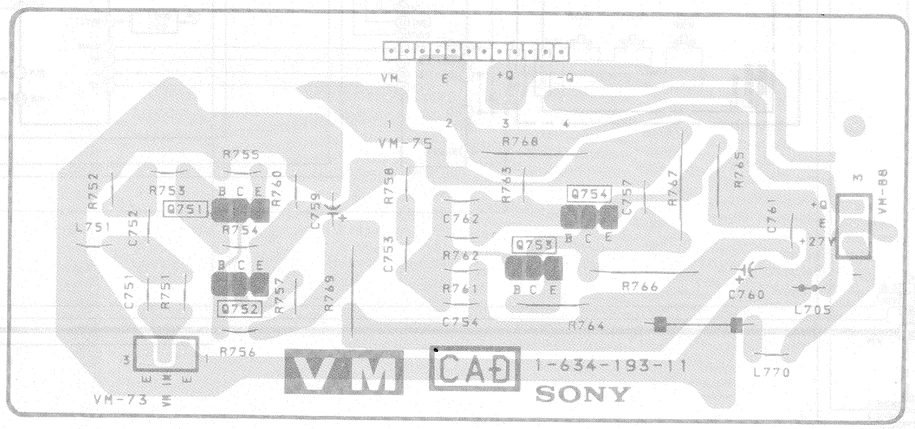


A [TUNER, SIF, VIF] **VM** [VM AMP]

— A Board —

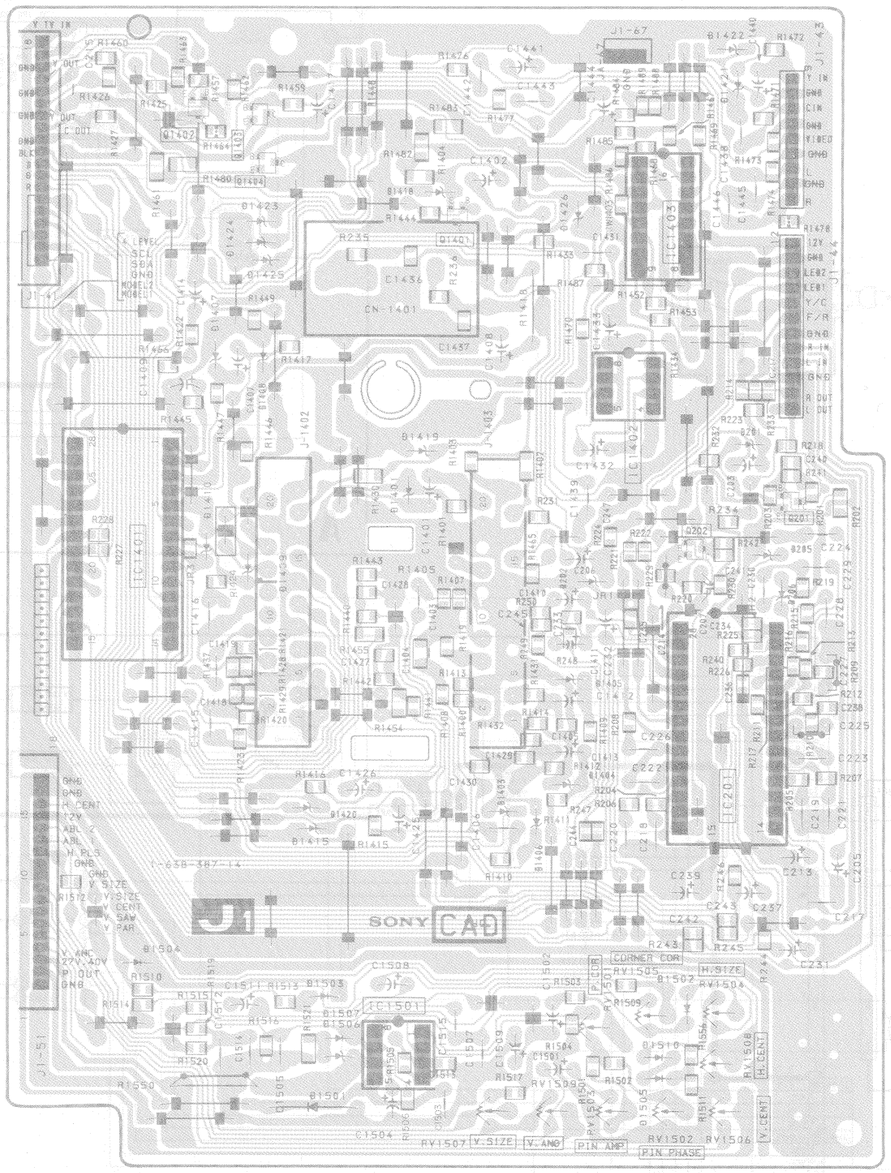


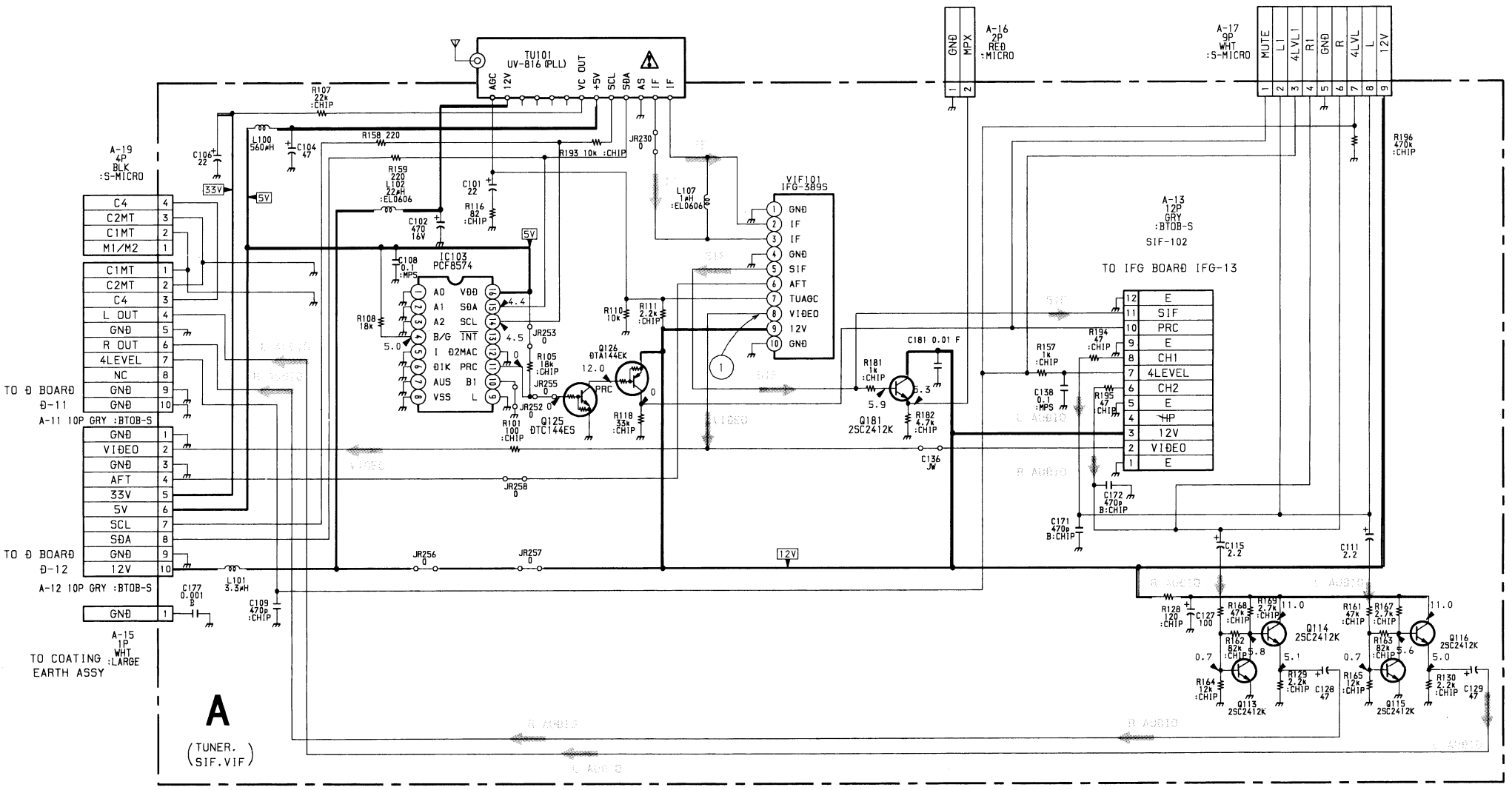
— VM Board — (KV-A2921D ONLY)



J1 [AUDIO CONTROL, AV INPUT Y/C INPUT, SCART VIDEO OUT, EAST-WEST CORRECTION]

— J1 Board —



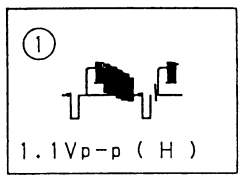


B-SS4172<AEP>-A..

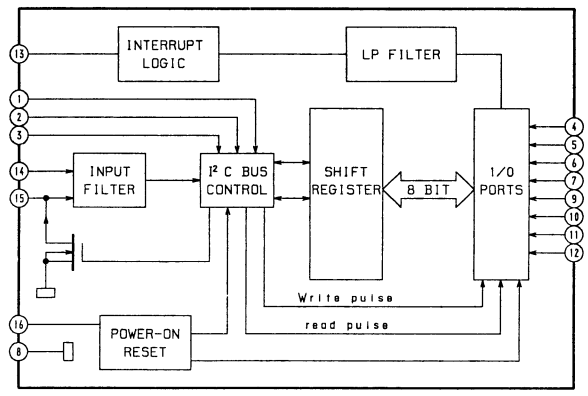
— A Board —

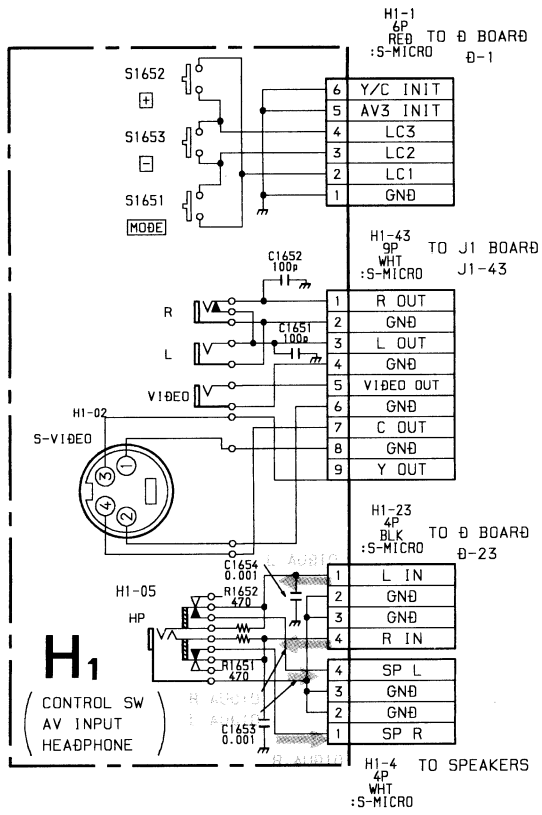
IC103	PCF8574	EXPANDER
Q113	2SC2412K	AUDIO AMP
Q114	2SC2412K	AUDIO AMP
Q115	2SC2412K	AUDIO AMP
Q116	2SC2412K	AUDIO AMP
Q125	DTC144ES	MUTE SW
Q126	DTA144EK	MUTE SW
Q181	2SC2412K	NICAM BUFFER

— A Board —

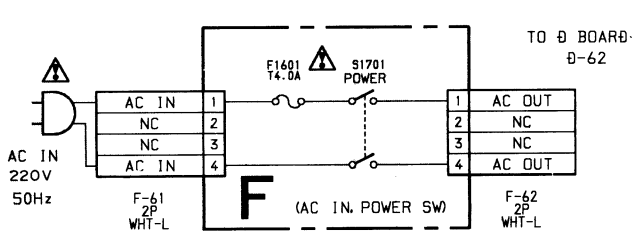


A BOARD IC103 PCF8574

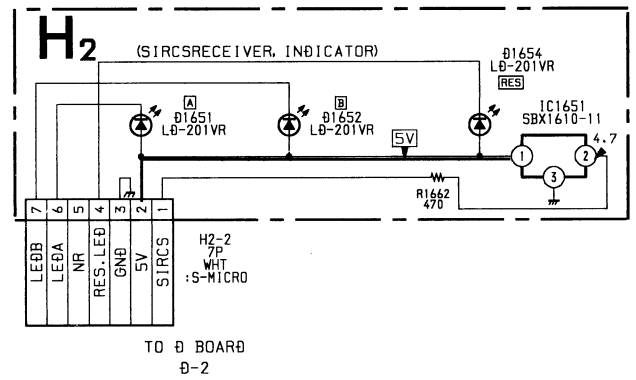




B-SS4161<UK.>-H1.



B-SS4172 <AEP>-F



B-SS4161<UK.>-H2.

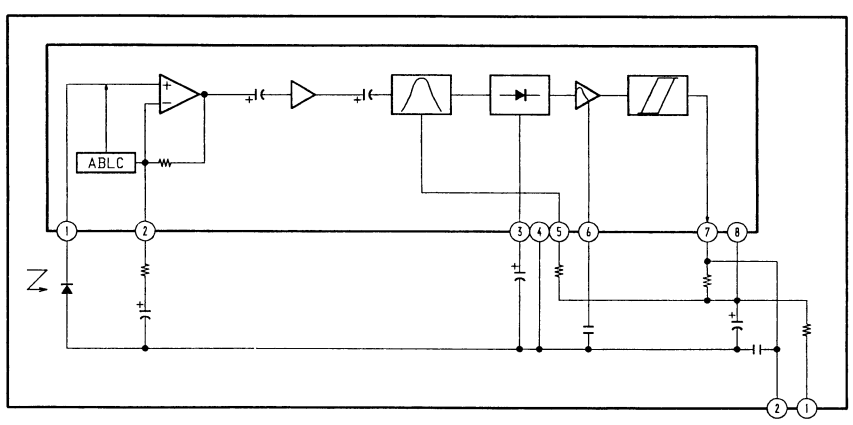
— H2 Board —

IC1651	SBX1610-11	INFRARED RECIVER
D1651	LD-201VR	AUDIO CHANNEL A INDICATOR
D1652	LD-201VR	AUDIO CHANNEL B INDICATOR
D1654	LD-201VR	RESET INDICATOR

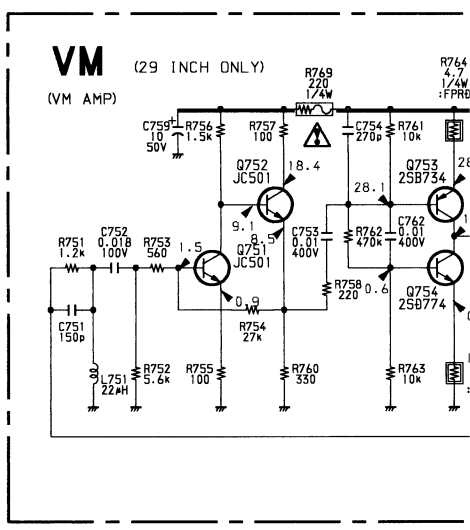
— VM Board — (KV-A2921D ONLY)

Q751	JC501	REF-AMP
Q752	JC501	REF-AMP
Q753	2SB734	PUSH-PULL
Q754	2SD774	PUSH-PULL

H2 BOARD IC1651 SBX1610-11

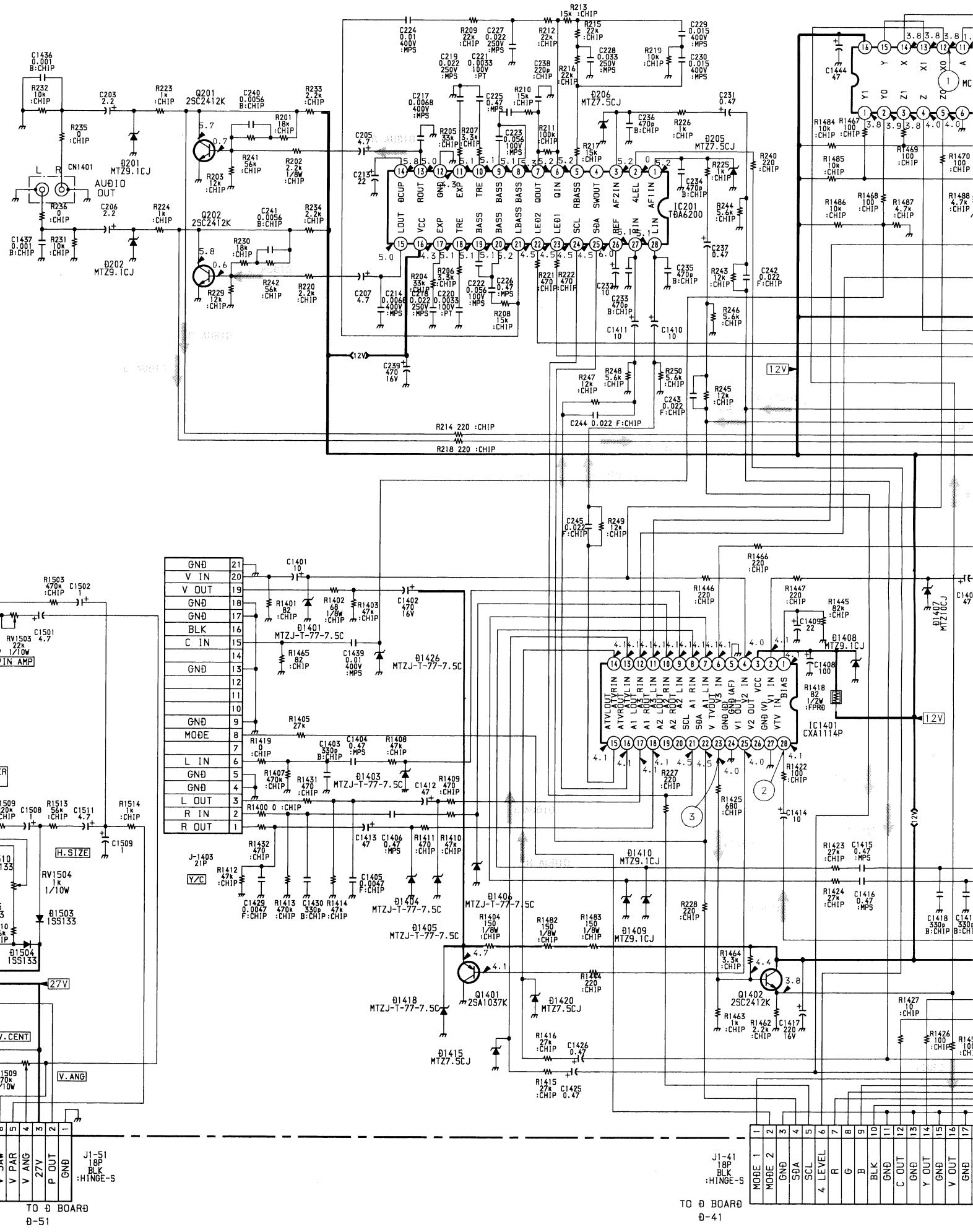


— VM Board — (KV-A2921D ONLY)



J1

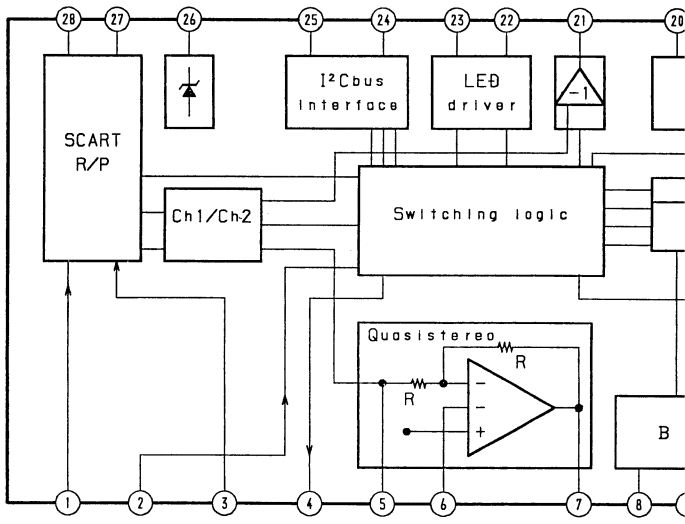
AUDIO CONTROL
AV INPUT, Y/C INPUT,
SCART VIDEO OUT,
EAST-WEST CORRECTION



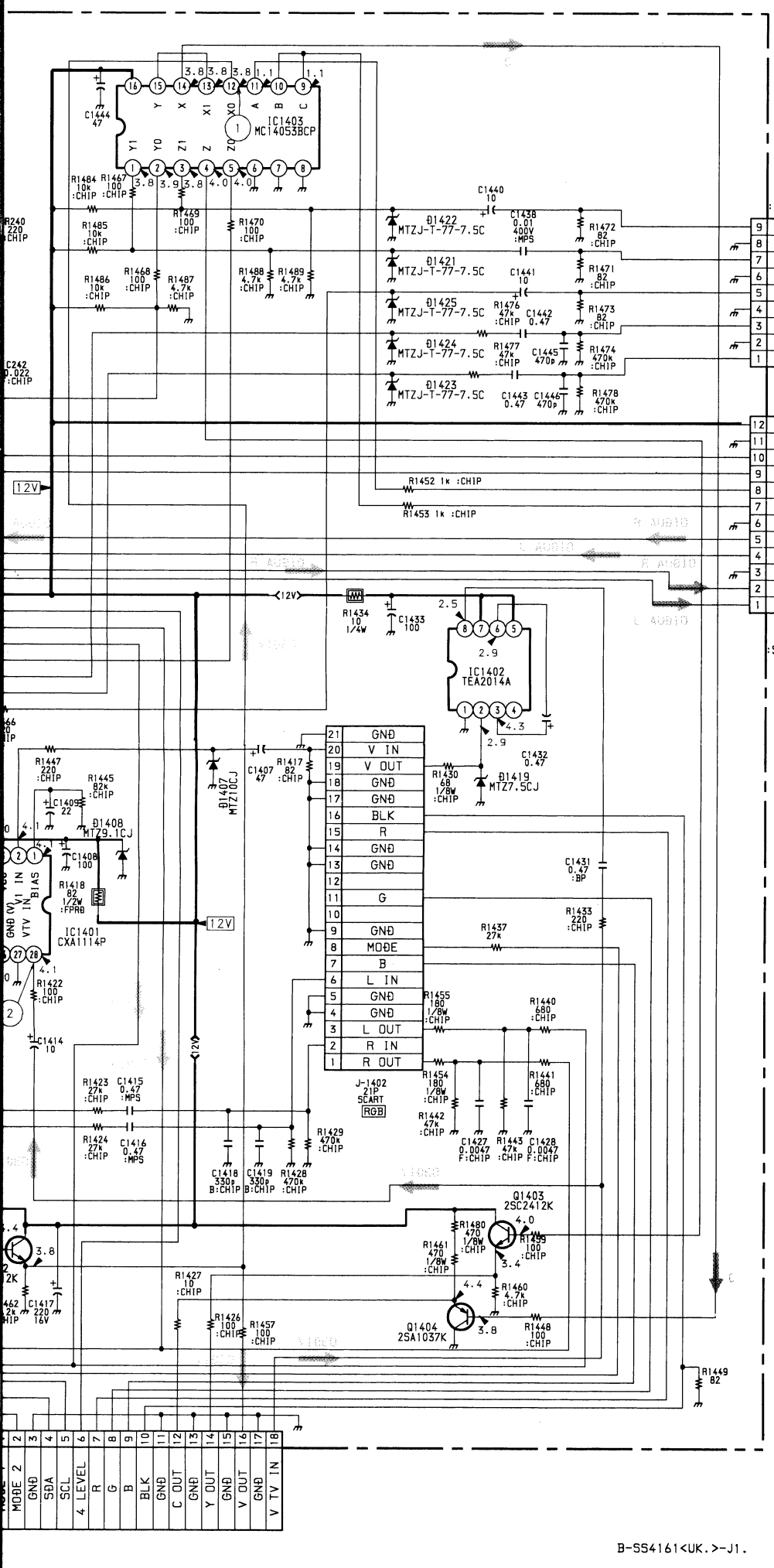
— J1 BOARD * MARK —

	KV-A2121D	KV-A2521D	KV-A2921D
C1512	0.0068 400V	0.0068 400V	——
C1514	0.022 250V	0.022 250V	——
C1515	820P	820P	——
R1515	680K	680K	——
R1520	470K 1/10W	470K 1/10W	390K 1/10W
R1550	JW (15)	JW (15)	1 1W

J1 BOARD IC201 TDA6200



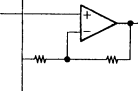
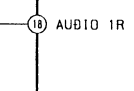
B-SS4161<UK.>-VM.



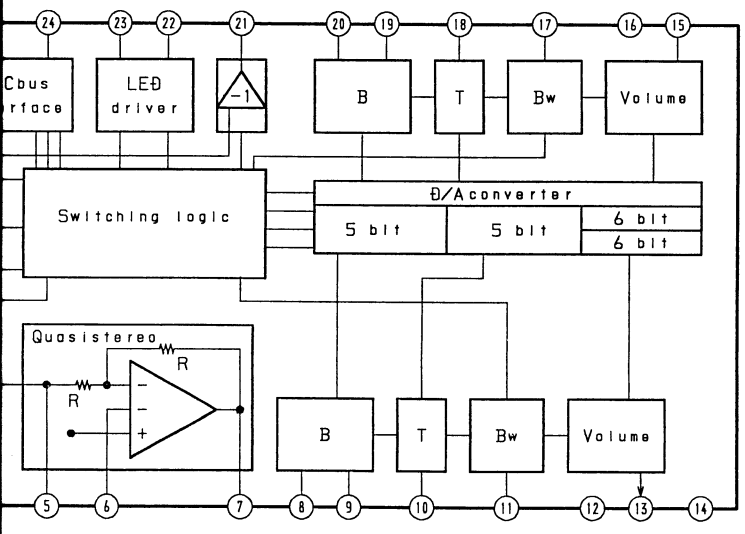
— J1 Board —

IC201	TDA6200	AUDIO CONTROL
IC1401	CXA1114P	AV SW
IC1402	TEA2014A	SCART VIDEO OUT
IC1403	MC14053BCP	COMPOSITE Y/C SW
IC1501	TEA2031A	EAST-WEST CORRECTION
Q201	2SC2412K	AUDIO R BUFF
Q202	2SC2412K	AUDIO L BUFF
Q1401	2SA1037K	VIDEO OUT
Q1402	2SC2412K	VIDEO OUT BUFF
Q1403	2SC2412K	Y OUT BUFF
Q1404	2SA1037K	C OUT BUFF
D201	MTZJ-T-77-9.1C	PROTECT
D202	MTZJ-T-77-9.1C	PROTECT
D205	MTZJ-T-77-7.5C	PROTECT
D206	MTZJ-T-77-7.5C	PROTECT
D1401	MTZJ-T-77-7.5C	PROTECT
D1403	MTZJ-T-77-7.5C	PROTECT
D1404	MTZJ-T-77-7.5C	PROTECT
D1405	MTZJ-T-77-7.5C	PROTECT
D1406	MTZJ-T-77-7.5C	PROTECT
D1407	MTZN-T-77-10C	PROTECT
D1408	MTZJ-T-77-9.1C	REG
D1409	MTZJ-T-77-9.1C	PROTECT
D1410	MTZJ-T-77-9.1C	PROTECT
D1415	MTZJ-T-77-7.5C	PROTECT
D1418	MTZJ-T-77-7.5C	PROTECT
D1419	MTZJ-T-77-7.5C	PROTECT
D1420	MTZJ-T-77-7.5C	PROTECT
D1421	MTZJ-T-77-7.5C	PROTECT
D1422	MTZJ-T-77-7.5C	PROTECT
D1423	MTZJ-T-77-7.5C	PROTECT
D1424	MTZJ-T-77-7.5C	PROTECT
D1425	MTZJ-T-77-7.5C	PROTECT
D1426	MTZJ-T-77-7.5C	PROTECT
D1501	RGP10GPKG23	PROTECT
D1502	1SS133	DECOUPLING H SIZE
D1503	1SS133	CLIPPING V PARABORA
D1504	1SS133	CLIPPING H PULSE
D1505	1SS133	REG
D1506	HZS36NB4TD	PROTECT
D1507	1SS133	PROTECT
D1510	1SS133	REG

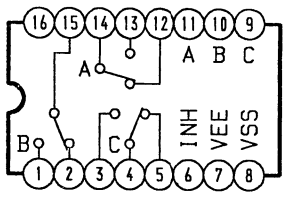
— J1 Board —

①	②	③
		
1.4Vp-p (H)	1.4Vp-p (H)	2.6Vp-p (H)

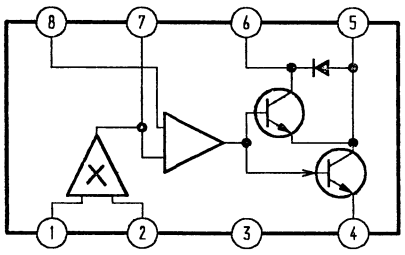
J1 BOARD IC1401 CXA1114P



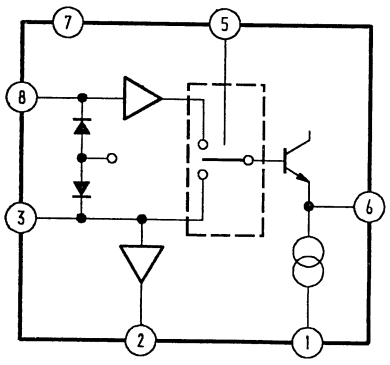
J1 BOARD IC1403 MC14053BCP



J1 BOARD IC1501 TEA2031A



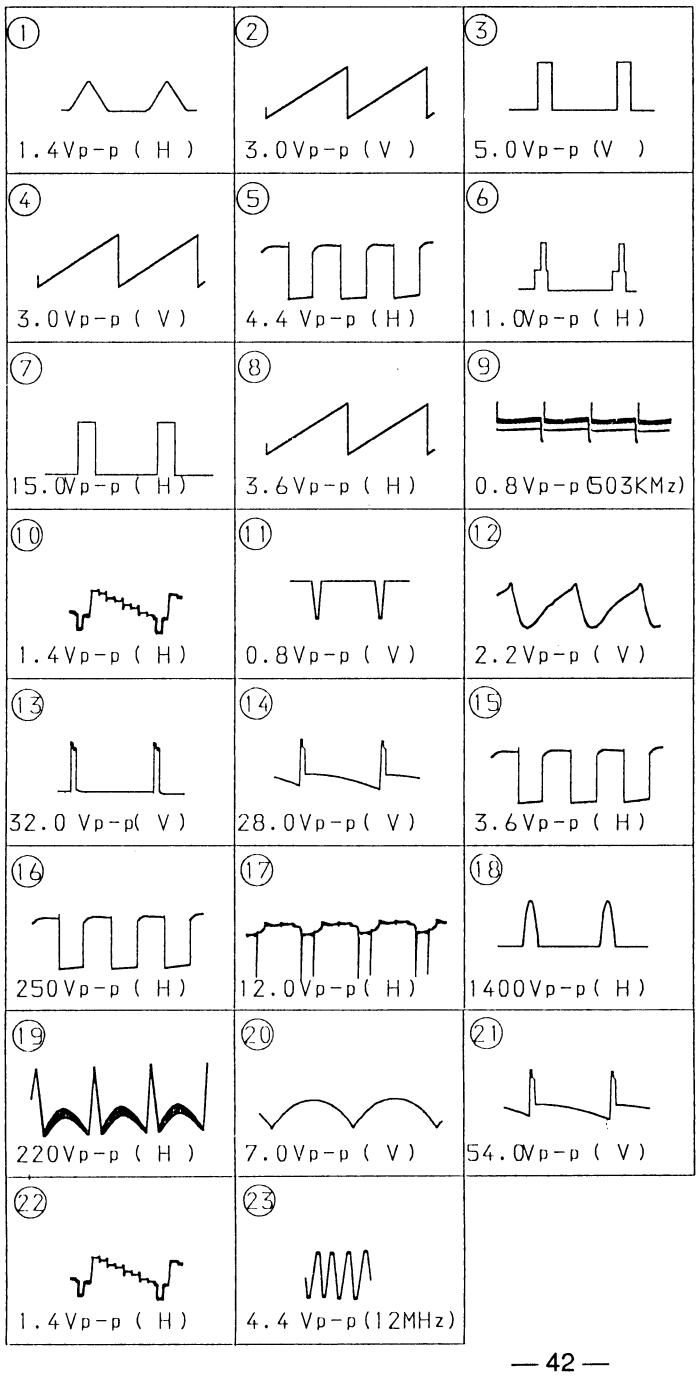
J1 BOARD IC1402 TEA2014A



— D BOARD * MARK —

	KV-A2121Đ	KV-A2521Đ	KV-A2921Đ
C519	0.47	0.47	0.33
C526	27P	27P	22P
C536	4.7 16V	10 16V	10 16V
C617	220 25V	100 50V	100 50V
C620	1 63V	0.47 50V	0.47 50V
C811	1 200V	2 200V	2 200V
C815	1 200V	1 200V	0.82 200V
C817	0.0106 1.4KV	0.015 1.4KV	0.017 1.4KV
C821	680P 2KV	680P 2KV	470P 2KV
R525	1K 1/10W	1K 1/10W	——
R531	——	120K 1/10W	120K 1/10W
R532	——	——	——
R533	180 1/10W	0 1/10W	0 1/10W
R535	4.7M 1/4W	2.2M 1/4W	2.2M 1/4W
R545	39K 1/10W	22K 1/10W	22K 1/10W
R547	5.6K 1/10W	3.3K 1/10W	3.3K 1/10W
R548	1.2 1W	1 1W	1 1W
R549	470 2W	390 2W	390 2W
R552	1.2K 1W	——	——
R561	——	——	270K 1/10W
R570	——	——	680 1/10W
R600	——	1 1/4W	1 1/4W
R603	15 3W	12 3W	12 3W
R607	4.7K 1/10W	4.7K 1/10W	5.6K 1/10W
R631	27K 2W	27K 2W	——
R643	0.15 2W	0.12 2W	0.12 2W
R811	100 1W	22 2W	22 2W
R812	75K 1/2W	68K 1/2W	51K 1/2W
R825	1 1W	0.47 1W	0.47 1W
R5503	4.7 1/10W	4.7 1/10W	10 1/10W
R5506	——	——	12K 1/10W
JW202	——	——	5MM
JW203	5MM	5MM	——
JW204	5MM	5MM	——
JW205	——	——	5MM
JW206	5MM	5MM	——
JW207	5MM	5MM	——
JW216	15MM	15MM	——
JW229	10MM	10MM	——
L801	——	——	3.9MH
Đ88	——	——	3P CONNECTOR
Đ271	MTZJ12C	MTZJ13B	MTZJ13B
Đ506	ĐA204K	ĐA204K	——
Đ509	——	1SS133	1SS133
Đ514	JW (5)	JW (5)	1SS133
Đ515	——	——	1SS133
Đ807	——	ERC06-15S	ERC06-15S
Đ808	ERĐ28-08S	ERĐ29-08J	ERĐ29-08J

— D Board —



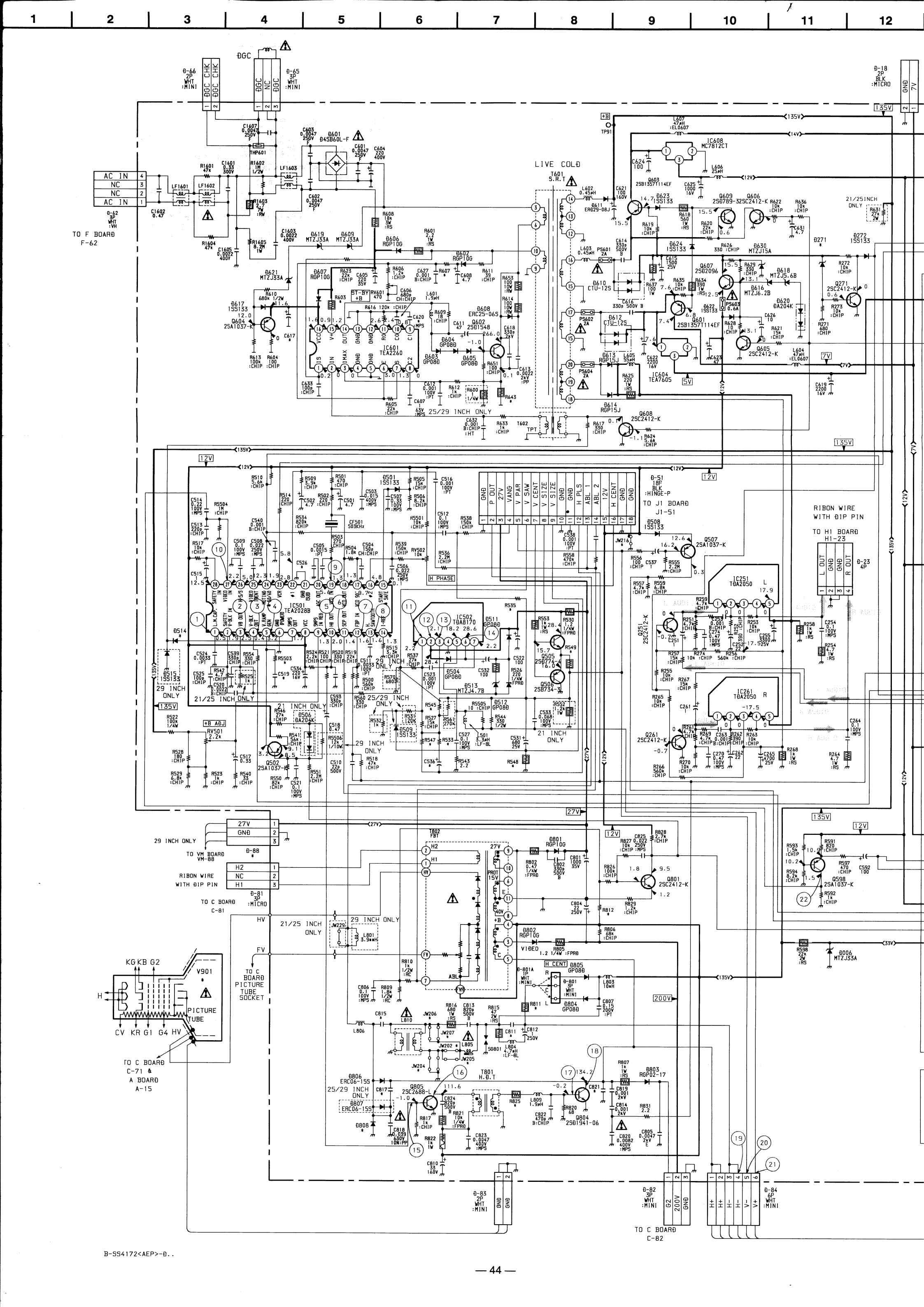
— D Board —

IC001	SĐA20560-A012	TUNING CTL
IC002	MC14051BCP	ON SCREEN ĐISPLAY
IC003	BA4558	AFT COMPARATOR
IC005	SĐA2546	MY MEMORY
IC251	TĐA2050	AUĐIO OUT (L)
IC261	TĐA2050	AUĐIO OUT (R)
IC501	TEA2028B	ĐEFLECTION PROCESSOR
IC502	TĐA8170	V OUT
IC601	TEA2260	PRIMARY SMRS CTL
IC604	TEA7605	+5V REG
IC608	MC7812CT	+12V REG
Q001	ĐTC144EK	50/60Hz SW
Q002	ĐTC144EK	BLK SW
Q003	2SA1037K	SYNC SEPARATOR
Q004	2SA1037K	SYNC SEPARATOR
Q005	ĐTC144EK	Y/C SW
Q006	ĐTC144EK	FRONT/REAR SW
Q007	2SC2412K	MOĐE 2 SWITCH
Q008	2SC2412K	MOĐE 1 SWITCH
Q009	2SC2412K	MUTE SW
Q010	2SC2412K	RESET
Q251	2SC2412K	AUĐIO MUTE
Q261	2SC2412K	AUĐIO MUTE
Q271	2SC2412K	VOLTAGE ĐETECT
Q502	2SA1037K	CONSTANT CURRENT SOURCE
Q505	2SĐ774	V CENT
Q506	2SB734	V CENT
Q507	2SA1037K	CANAL +BLK
Q598	2SA1037K	VIĐEO AMP
Q601	2SB1357T114EF	STBY SW
Q602	2SĐ1548	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037K	FAST ON/OFF
Q605	2SC2412K	STBY SW
Q606	2SC2412K	STBY SW
Q607	2SĐ2096-EF	+12V REG
Q608	2SC2412K	STBY SW
Q609	2SĐ789-3	STBY SW
Q801	2SC2412K	ABL AMP
Q804	2SĐ1941	H OUT
Q805	2SC2688	H ĐRIVER

Đ001	MTZJ6.8C	PROTECT
Đ002	MTZJ6.8C	PROTECT
Đ003	1SS133	HUE CTL
Đ005	MTZJ5.6B	PROTECT
Đ006	MTZJ33A	VC VOLTAGE REGULATION
Đ007	MTZJ3.9B	PROTECT RESET
Đ009	MTZJ5.6B	CLIPPING SYNC LEVEL
Đ010	MTZJ6.2B	PROTECT
Đ011	MTZJ6.2B	PROTECT
Đ012	1SS133	PROTECT
Đ013	MTZJ6.8C	PROTECT
Đ271	RD12ES-B2	VOLTAGE ĐETECT (21 INCH ONLY)
Đ271	MTZJ13B	VOLTAGE ĐETECT (25/29 INCH ONLY)
Đ272	1SS133	ĐECOUPING MUTE AUĐIO
Đ501	1SS133	SOFT START
Đ504	GP08ĐPKG23	V PULSE OUT
Đ506	ĐA204K	CURRENT REG (21/25 INCH ONLY)
Đ508	1SS133	CANAL +BLK LEVEL
Đ509	1SS133T-77	V LIN (25/29 INCH ONLY)
Đ511	GP08ĐPKG23	PROTECT
Đ512	GP08ĐPKG23	PROTECT
Đ513	MTZJ4.7B	PROTECT
Đ514	1SS133T-77	PROTECT (29 INCH ONLY)
Đ515	1SS133T-77	PROTECT (29 INCH ONLY)
Đ601	Đ4SB60L-F	AC RECT
Đ602	RGP10GPKG23	REF RECT
Đ603	GP08ĐPKG23	SMPS ĐRIVE 1
Đ604	GP08ĐPKG23	SMPS ĐRIVE 2
Đ605	GP08ĐPKG23	SMPS ĐRIVE 3
Đ606	RGP10GPKG23	+12V RECT
Đ607	RGP10GPKG23	REF RECT
Đ608	ERC25-065	PLUSE CLIPPER
Đ609	MTZJ33A	FAST ON/OFF
Đ610	CTU-12S	+14V RECT
Đ611	ERĐ29-08J	+135V RECT
Đ612	CTU-12S	+7V RECT
Đ613	RGP15J-6040G23	AF V RECT-1
Đ614	RGP15J-6040G23	AF V RECT-2
Đ616	MTZJ6.2B	+12V REG
Đ617	1SS133	PROTECT
Đ618	MTZJ5.6B	+12V REF
Đ619	MTZJ33A	FAST ON/OFF-2
Đ620	ĐA204K	+12V REF
Đ621	MTZJ33A	FAST ON/OFF-3
Đ622	1SS133	PROTECT
Đ623	1SS133	ĐECOUPING STBY
Đ624	1SS133	ĐECOUPING ĐTBY
Đ630	MTZJ15A	+12V RECT
Đ801	RGP10GPKG23	+27V RECT
Đ802	RGP10GPKG23	+200V RECT
Đ803	RGP02-17PKG23	G2 RECT
Đ804	GP08ĐPKG23	H CENTER-1
Đ805	GP08ĐPKG23	H CENTER-2
Đ806	ERC06-15S	H ĐAMPER-1
Đ807	ERC06-15S	H ĐAMPER-2 (25/29 INCH ONLY)
Đ808	ERĐ28-08S	PIN ĐAMPER (21 INCH ONLY)
Đ808	ERĐ29-08S	PIN ĐAMPER (25/29 INCH ONLY)

— PICTURE TUBE * MARK —

	KV-A2121Đ	KV-A2521Đ	KV-A2921Đ
V901	A51JXH61X	A59JWC61X	A68JYL61X


1 2 3 4 5 6 7 8 9 10 11 12
ĐGC
Đ-66 2P WHT :MINI
ĐGC CHK CHK ĐGC
Đ-65 3P WHT :MINI
ĐGC NC ĐGC
Đ-18 2P BLK :MICRO
GNĐ 7V
AC IN 4
NC 3
NC 2
AC IN 1
Đ-62 3P WHT :VH
TO F BOARĐ F-62
LIVE COLĐ
T601 S.R.T
TP91
+B
135V
14V
12V
7V
5V
IC608 MC7812CT
IC604 TEA7605
IC601 TEA2260
IC501 TEA2028B
IC502 TDA8170
IC251 TDA2050 L
IC261 TDA2050 R
Đ601 Đ4SB60L-F
Đ602 RGP10G
Đ603 GP08Đ
Đ604 GP08Đ
Đ605 GP08Đ
Đ606 RGP10G
Đ607 RGP10G
Đ608 ERC25-06S
Đ609 MTZJ33A
Đ610 CTU-12S
Đ611 ERC29-08J
Đ612 CTU-12S
Đ613 RGP15J
Đ614 RGP15J
Đ616 MTZJ6.2B
Đ617 1SS133
Đ618 MTZJ5.6B
Đ619 MTZJ33A
Đ620 ĐA204K
Đ621 MTZJ33A
Đ622 1SS133
Đ623 1SS133
Đ624 1SS133
Đ630 MTZJ15A
Đ271 *
Đ272 1SS133
Q601 2SB1357T114EF
Q602 2SD1548
Q603 2SB1357T114EF
Q604 2SA1037-K
Q605 2SC2412-K
Q606 2SC2412-K
Q607 2SD2096
Q608 2SC2412-K
Q609 2SD789-32SC2412-K
Q271 2SC2412-K
21/25INCH ONLY
L601 1.9mH
L602 0.45mH
L603 0.45mH
L604 47mH :EL0607
L605 55mH
L606 25mH
L607 47mH :EL0607
PS601 2A
PS602 2A
PS603 0.6A
PS604 2A
THP601
LF1601
LF1602
LF1603
RV601 470
RV501 2.2k
CF501 503KHz
ST-BY +B
29 INCH ONLY
25/29 INCH ONLY
21 INCH ONLY
21/25 INCH ONLY
+B ADJ
H PHASE
RIBON WIRE WITH ĐIP PIN
TO H1 BOARĐ H1-23
Đ-23 4P L OUT GNĐ GNĐ R OUT
Đ-51 18P BLK :HINGE-P
TO J1 BOARĐ J1-51
GNĐ P OUT 27V VANG V PAR V SAW V CENT V SIZE V SIZE GNĐ GNĐ H PLS ABL 1 ABL 2 12V H CENT GNĐ GNĐ
Đ508 1SS133
JW216
Q507 2SA1037-K
Q502 2SA1037-K
Q505 2SD774-4
Q506 2SB734-3
Q251 2SC2412-K
Q261 2SC2412-K
27V
GNĐ
H2
NC
H1
Đ-88
Đ-81 3P :MICRO
TO VM BOARĐ VM-88
TO C BOARĐ C-81
RIBON WIRE WITH ĐIP PIN
T802 FBT
Đ801 RGP10G
Đ802 RGP10G
Đ803 RGP02-17
Đ804 GP08Đ
Đ805 GP08Đ
Đ806 ERC06-15S
Đ807 ERC06-15S
Đ808 *
Đ006 MTZJ33A
Q801 2SC2412-K
Q804 2SD1941-06
Q805 2SC2688-L
Q598 2SA1037-K
T801 H.Đ.T
L801 3.9mH
L803 10mH
L804 4.7mH :LF-8L
L805
L806
L809 1.9mH
L810
SG801
V901 *
KG KB G2
H
CV KR G1 G4 HV
PICTURE TUBE
TO C BOARĐ PICTURE TUBE SOCKET
TO C BOARĐ C-71 & A BOARĐ A-15
Đ-83 2P WHT :MINI GNĐ GNĐ
Đ-82 3P WHT :MINI G2 200V GNĐ
Đ-84 6P WHT :MINI H+ H+ H- H- V- V+
TO C BOARĐ C-82
200V
33V

TUNING CONTROL
POWER CONTROL
AUDIO OUT
H/V OUT

D

TO J1 BOARD J1-44

TO H2 BOARD H2-2

D-18 2P BLK :MICRO (GND, 7V)

D-44 6P WHT :S-MICRO (1 F/R, 2 Y/C, 3 LED 1, 4 LED 2, 5 GND, 6 12V)

D-2 7P WHT :S-MICRO (7 LEDB, 6 LEDA, 5 NR, 4 RES.LED, 3 GND, 2 +5V, 1 SIRCS)

135V 14V 12V 7V 5V 33V

21/25INCH ONLY

R631 27k 2W

D271 * D272 1SS133

Q271 2SC2412-K

Q005 DTC144EK

Q006 DTC144EK

Q009 2SC2412-K

C027 47

R029 10k :CHIP R030 10k :CHIP R055 330 :CHIP R062 1k :CHIP

R059 1k :CHIP R060 1k :CHIP

R061 4.7k :CHIP R003 1k 1/8W :CHIP R001 470 :CHIP R002 470 :CHIP R004 1k :CHIP R031 22k :CHIP

R010 470 :CHIP R012 10k :CHIP R013 10k :CHIP

C004 220 16V

D010 MTZJ6.2B D011 MTZJ6.2B

R022 4.7k :CHIP R021 4.7k :CHIP

R020 100 1/10W :CHIP R019 100 1/10W :CHIP

R058 1k :CHIP

R272 10k :CHIP R273 10k :CHIP R271 680 :CHIP

R079 10k :CHIP R087 270 R056 10k :CHIP D005 MTZJ5.6B R027 100 :CHIP R028 100 :CHIP R006 10k :CHIP R007 4.7k :CHIP R008 10k :CHIP R009 10k :CHIP R076 10k :CHIP

C034 0.1 25V R057 100 :CHIP C008 100p :CHIP

JR4 0 JR7 0

IC001 SDA20560-A012

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NC	BLK	CF5	C2MT	AFTL	SHP	AFT H	A2	A1	A0	GND	+5V	XTAL1	XTAL2	RESET	CLK	HUE	ANG	TXD	SIRCS
0			4.9	0.6	0.6	4.9	4.9	4.8				1.3	0.9	0.6	2.6	4.1	4.2	4.2	4.8

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
BLK	INIT	MUXM	OSD V	OSD H	SCL	SDA	MUTE	ST.BY	SYNC	CLK	TXD	SIRCS	INT 3	INT 2	INT 1	VCR			
4.8	4.8	4.2	4.1	4.7	4.9	4.7	0.2	0.2	0.8	4.7	4.9	4.7	0.2	0.2	4.7	3.2	0.3	0.3	0.1

R096 10k :CHIP R095 10k :CHIP R094 10k :CHIP JR3 0

CF001 12MHz

R015 3.3k :CHIP R016 33k :CHIP

C031 0.22 25V F:CHIP

D007 MTZ3.9B C003 2.2 R098 1k :CHIP R051 470 :CHIP R014 33k :CHIP Q010 2SC2412K C002 0.001 :3216 D003 1SS133 R017 39k

R071 1k 1/8W :CHIP Q002 DTC144EK R072 10k 1/8W :CHIP R073 10k :CHIP C009 100p :CHIP R040 15k :CHIP

R066 1k :CHIP R064 1k :CHIP Q008 2SC2412-K R065 1k :CHIP R063 1k :CHIP Q007 2SC2412-K R032 10k :CHIP R033 10k :CHIP

R070 1k 1/8W :CHIP Q004 2SA1037-K R044 100k :CHIP R045 3.3k :CHIP R042 1k :CHIP C017 0.1 100V :MPS R046 82k :CHIP C018 270p :CHIP R050 5.6k :CHIP C019 0.047 100V :MPS R048 10k :CHIP R047 10k :CHIP C016 1000p :CHIP R043 470 :CHIP D009 MTZJ5.6B Q003 2SA1037-K R049 10k :CHIP R078 1k 1/8W

R018 82k :CHIP C005 1

R035 22k :CHIP R036 27k :CHIP C013 0.1 100V :MPS C033 100p 1/8W :CHIP C015 0.47 C014 0.1 100V :MPS R037 6.8k :CHIP R038 6.8k :CHIP R083 1k :CHIP R039 22k :CHIP R034 15k :CHIP R041 10k :CHIP

IC003 BA4558

R086 1k :CHIP R085 1k :CHIP R084 1k :CHIP C030 0.1 25V :CHIP R081 10k :CHIP R067 10k :CHIP Q001 DTC144EK R075 470 1/10W :CHIP D012 1SS133 D013 MTZJ6.8C

R024 10k :CHIP R080 10k :CHIP R025 10k :CHIP

IC002 MC14051BCP

C032 0.22 25V F:CHIP R068 100 1/8W :CHIP R069 100 1/8W :CHIP

IC005 SDA2546

R054 1k :CHIP R053 1k :CHIP R052 1k :CHIP C021 100p :CHIP C023 100p :CHIP C024 100p :CHIP C010 220 16V C011 0.01 F:CHIP JR1 0

TO H1 BOARD H1-1

D-1 6P RED :S-MICRO

6	5	4	3	2	1
Y/C INIT	AV3 INIT	LC3	LC2	LC1	GND

RIBON WIRE WITH DIP PIN

TO H1 BOARD H1-23

D-23 4P

1	2	3	4
L OUT	GND	GND	R OUT

R258 1k 1W :RS C254 0.1 100V :MPS R254 4.7 1W :RS C264 0.1 100V :MPS R264 4.7 1W :RS

D-31 10P GRY :BTOB-P

10	V IN
9	GND
8	Y OUT
7	7V
6	V OUT
5	YC-SWITCH
4	C OUT
3	GND
2	SDA
1	SCL

TO B1 BOARD B-31

D-21 10P GRY :BTOB-P

10	GND
9	14V
8	GND
7	GND
6	7V
5	ST.BY
4	GND
3	VIDEO
2	S-TV
1	GND

TO V BOARD CNV-1

10	HUE
9	ST.BY
8	MUTE
7	CHAR
6	P/ON
5	SHP INIT
4	+12V
3	SCP
2	+BLK
1	ABL

TO B1 BOARD B-32

D-45 6P BLK :S-MICRO (GND, R OUT, L OUT, GND, R IN, L IN)

TO J1 BOARD J1-44

1	C1MT
2	C2MT
3	C4
4	L IN
5	GND
6	R IN
7	4-LEVEL
8	NC
9	GND
10	GND

TO A BOARD A-11

D-11 10P GRY :BTOB-P

1	GND
2	VIDEO IN
3	GND
4	AFT
5	33V
6	5V
7	SCL
8	SDA
9	GND
10	12V

TO A BOARD A-12

D-12 10P GRY :BTOB-P

D-32 10P GRY :BTOB-P

R598 22k 2W :RS D006 MTZJ33A

D-22 10P GRY :BTOB-P

10	PON
9	TV
8	GND
7	TDA
6	TCL
5	GND
4	R IN
3	G IN
2	B IN
1	BLK

TO V BOARD CNV-2

R088 2.7k R087 270 1/10W :CHIP

1	BLK1
2	B OUT
3	G OUT
4	R OUT
5	GND
6	BLK
7	TEXT B
8	TEXT G
9	TEXT R
10	GND

D-33 10P GRY :BTOB-P

TO B1 BOARD B-33

1	MODE 1
2	MODE 2
3	GND
4	SDA
5	SCL
6	4 LEVEL
7	R
8	G
9	B
10	BLK
11	GND
12	C IN
13	GND
14	Y IN
15	GND
16	V IN
17	GND
18	V TV OUT

D-41 18P BLK :HINGE

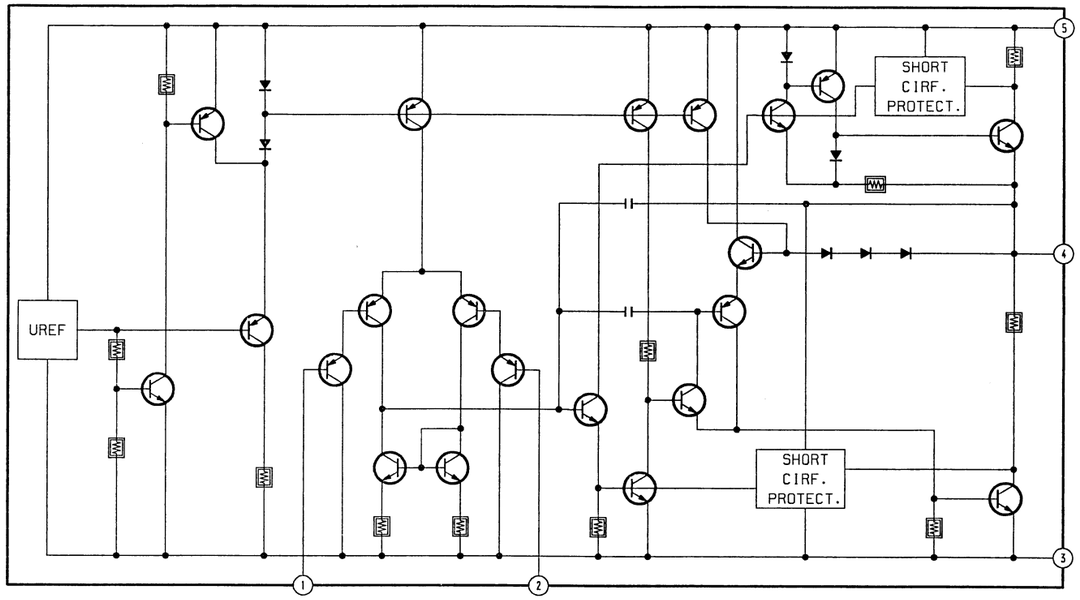
TO J1 BOARD J1-41

Q598 2SA1037-K R597 470 :CHIP C592 100 R591 820 :CHIP R592 1k :CHIP

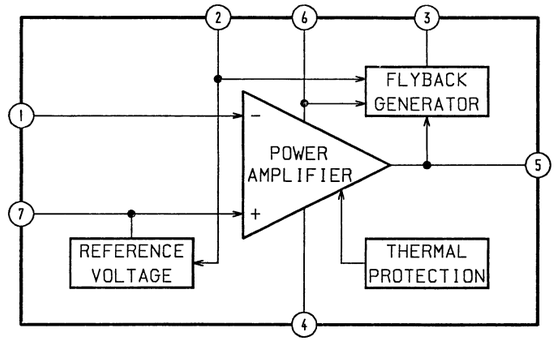
DY

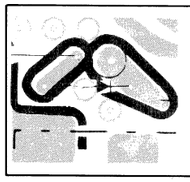
H.DY V.DY

D BOARD IC251/261 TDA2050



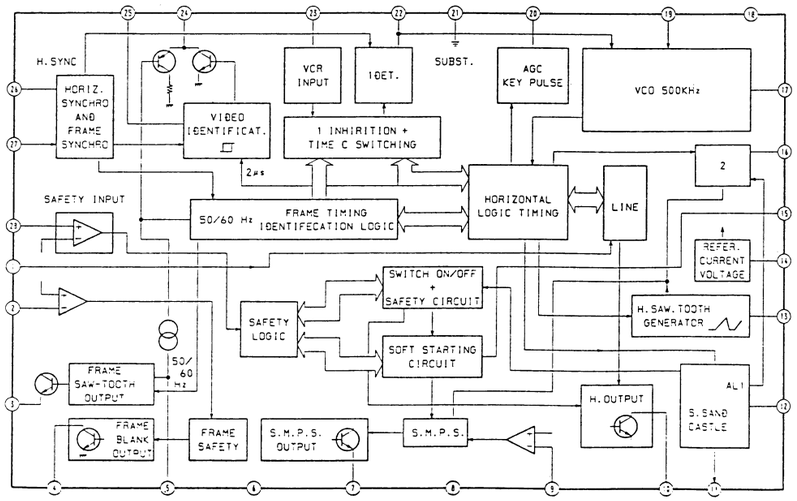
D BOARD IC502 TDA8170



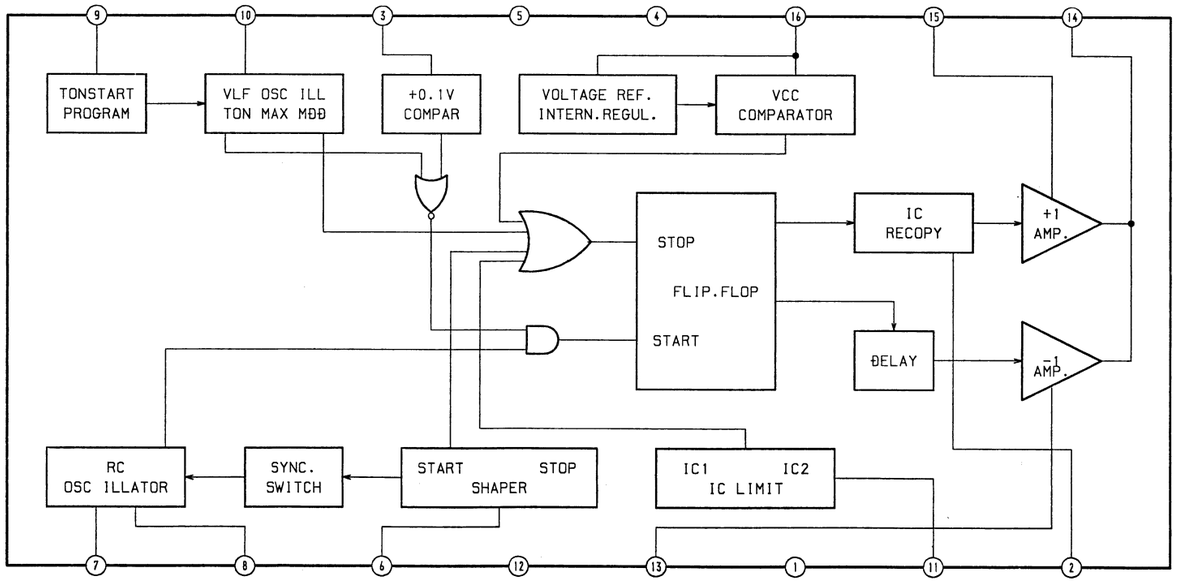


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

D BOARD IC501 TEA2028B

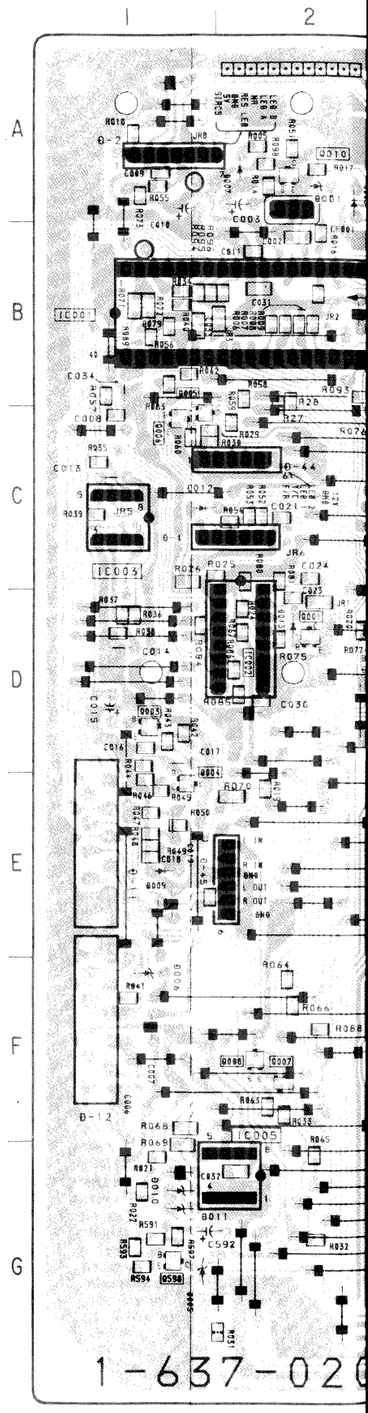


D BOARD IC601 TEA2260



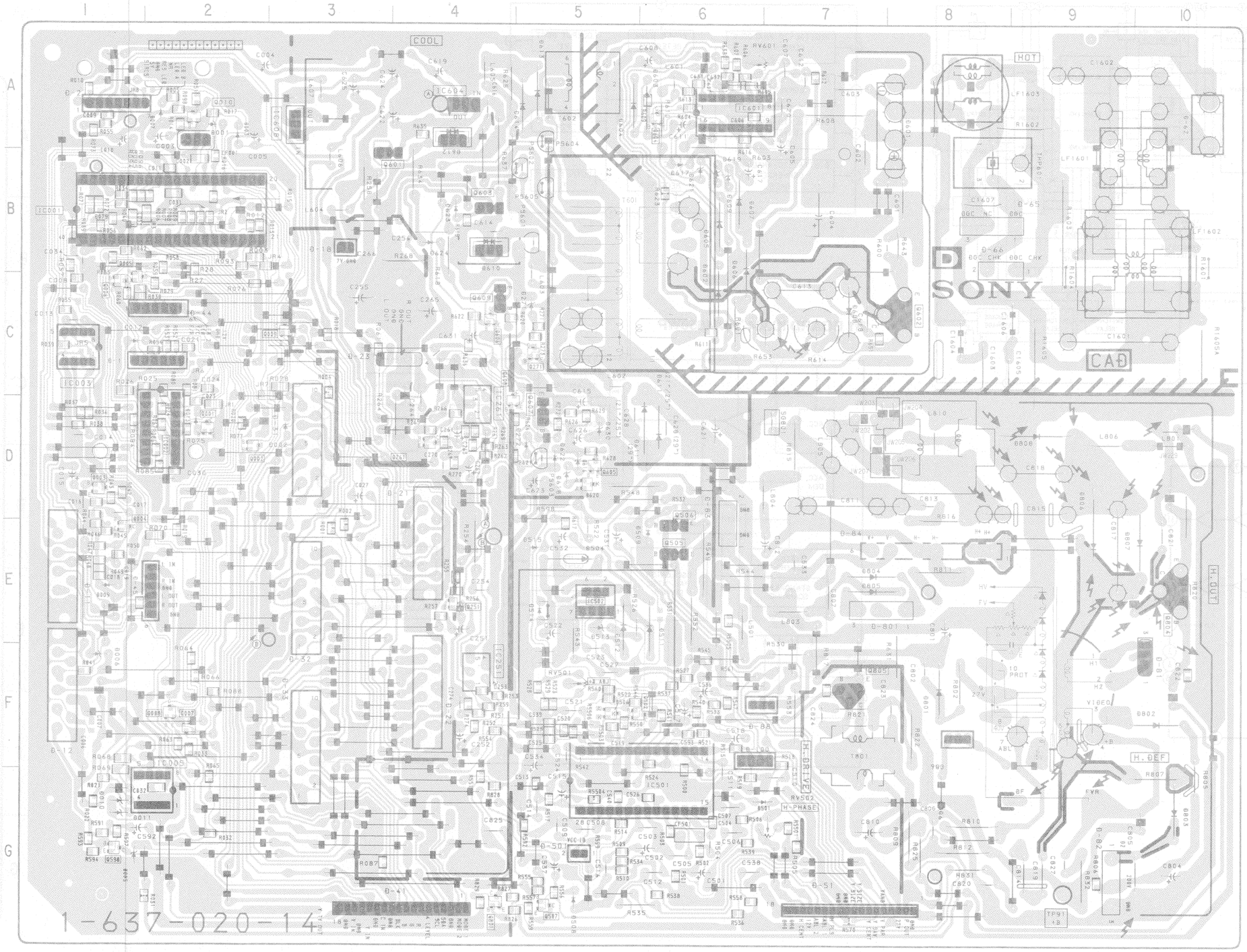
D TUNING CONTROL, POWER CONTRO
AUDIO OUT, H/V OUT

— D Board —



D [TUNING CONTROL, POWER CONTROL
AUDIO OUT, H/V OUT]

— D Board —



— D Board —

IC	
IC001	B-2
IC002	D-2
IC003	C-1
IC005	G-2
IC251	F-4
IC261	D-4
IC501	G-6
IC502	E-5
IC601	A-6
IC604	A-4
IC608	A-3

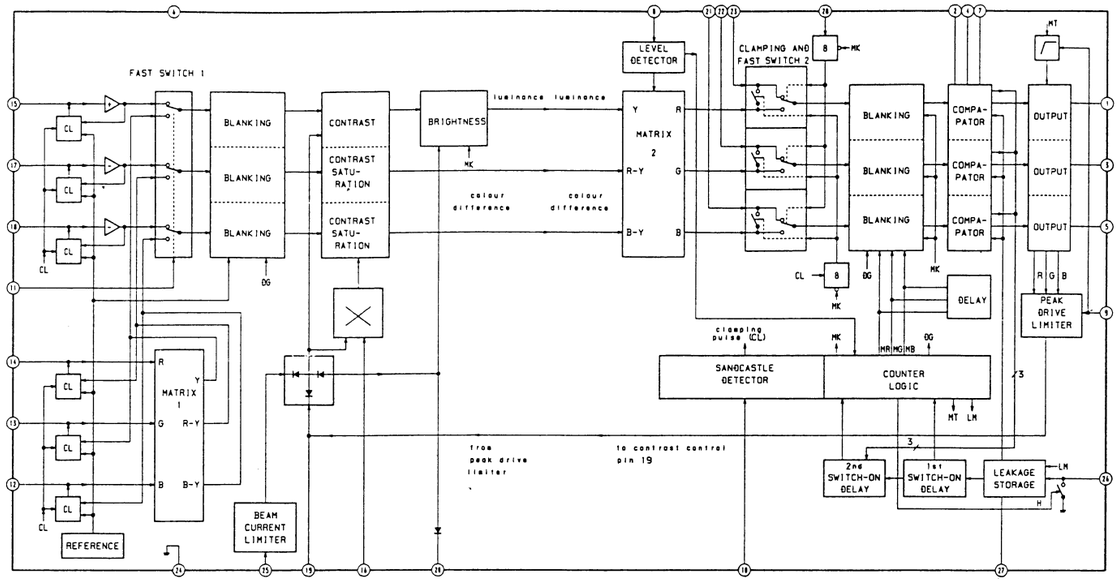
TRANSISTOR	
Q001	D-2
Q002	D-2
Q003	D-1
Q004	E-1
Q005	C-1
Q006	C-1
Q007	F-2
Q008	F-2
Q009	C-3
Q010	A-2
Q251	E-4
Q261	D-4
Q271	C-5
Q502	F-2
Q505	E-6
Q506	D-6
Q507	G-5
Q598	G-1
Q601	B-3
Q602	C-8
Q603	B-4
Q604	A-6
Q605	D-5
Q606	C-4
Q607	D-5
Q608	D-4
Q609	C-4
Q801	G-4
Q804	E-10
Q805	F-7

DIODE	
D001	A-2
D002	D-3
D003	A-2
D005	G-1
D006	F-1
D007	A-2
D009	E-1
D010	G-1
D011	G-1
D012	C-1
D013	D-2
D271	C-5
D272	D-5
D501	G-7
D504	E-5
D506	F-5
D508	G-5
D509	E-6
D511	E-6
D512	E-5
D513	E-5
D514	E-5
D515	E-5
D601	A-8
D602	C-6
D603	A-6
D604	A-5
D605	B-6
D606	B-6
D607	B-6
D608	C-7
D609	B-6
D610	B-4
D611	D-6
D612	A-4
D613	A-5
D614	A-5
D616	D-5
D617	B-6
D618	D-5
D619	B-6
D620	D-5
D621	B-6
D622	D-5
D623	B-4
D624	B-4
D630	D-5
D801	F-8
D802	F-10
D803	G-10
D804	E-7
D805	E-7
D806	E-9
D807	E-10
D808	D-9

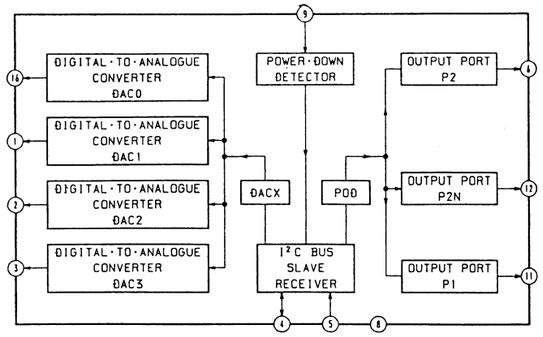
VARIABLE RESISTOR	
RV501	F-5
RV502	G-7
RV601	A-6

TP	
TP91	G-9

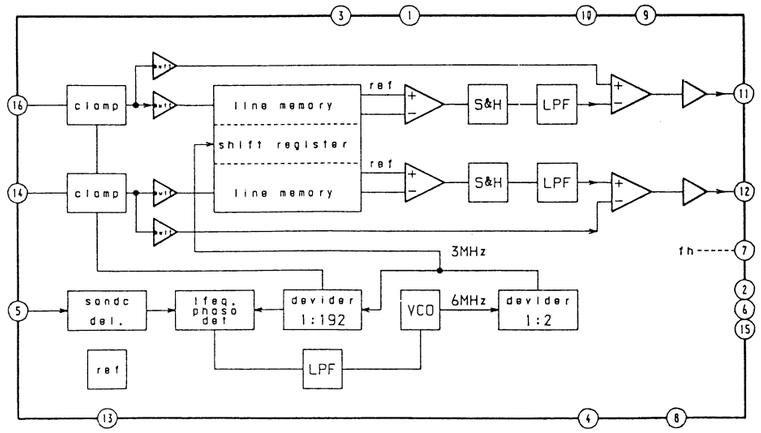
B1 BOARD IC301 TDA4580-V7



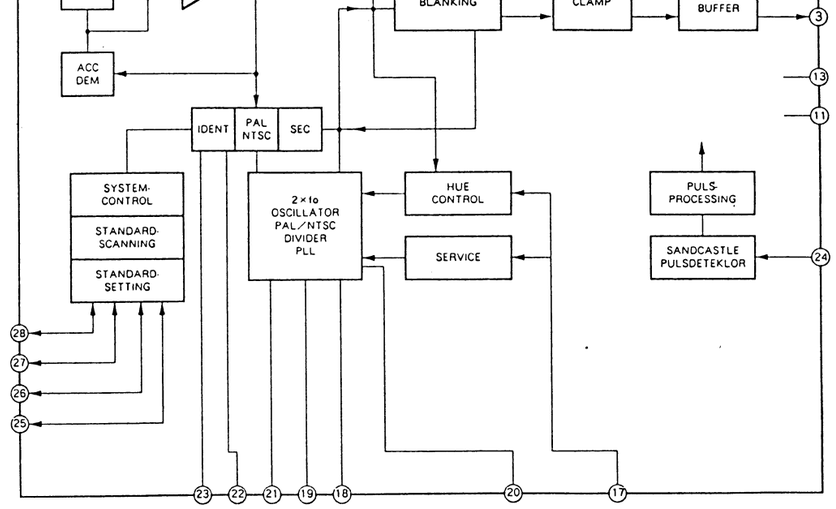
B1 BOARD IC302 TDA8442-N3



B1 BOARD IC303 TDA4660T



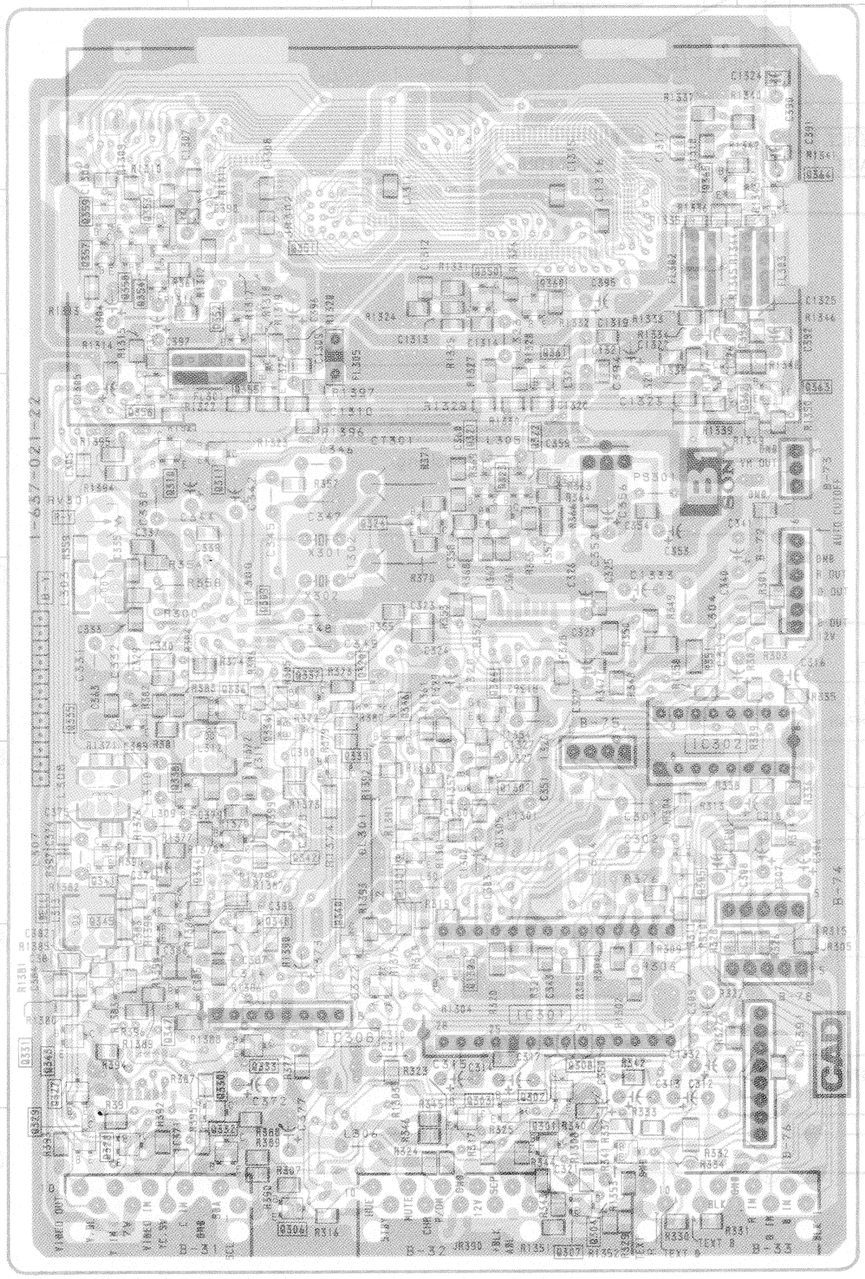
B1 BOARD IC304 TDA4650WP

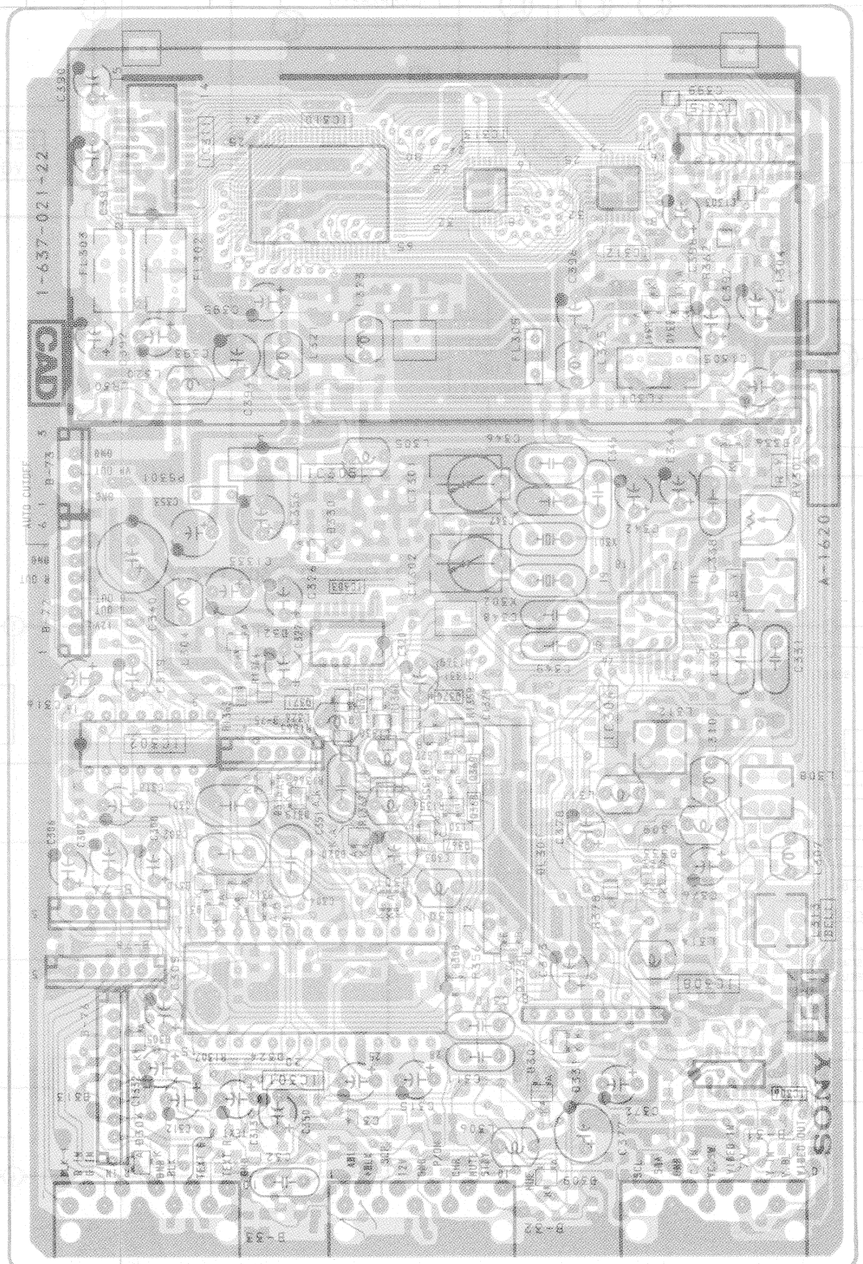


B1 VIDEO PROCESSOR, COLOR PROCESSOR
Y/C SW, D/A CONVERTER, MEMORY
A/D CONVERTER

— B1 Board —

- : pattern from the side which enables seeing.
- : pattern of the rear side.





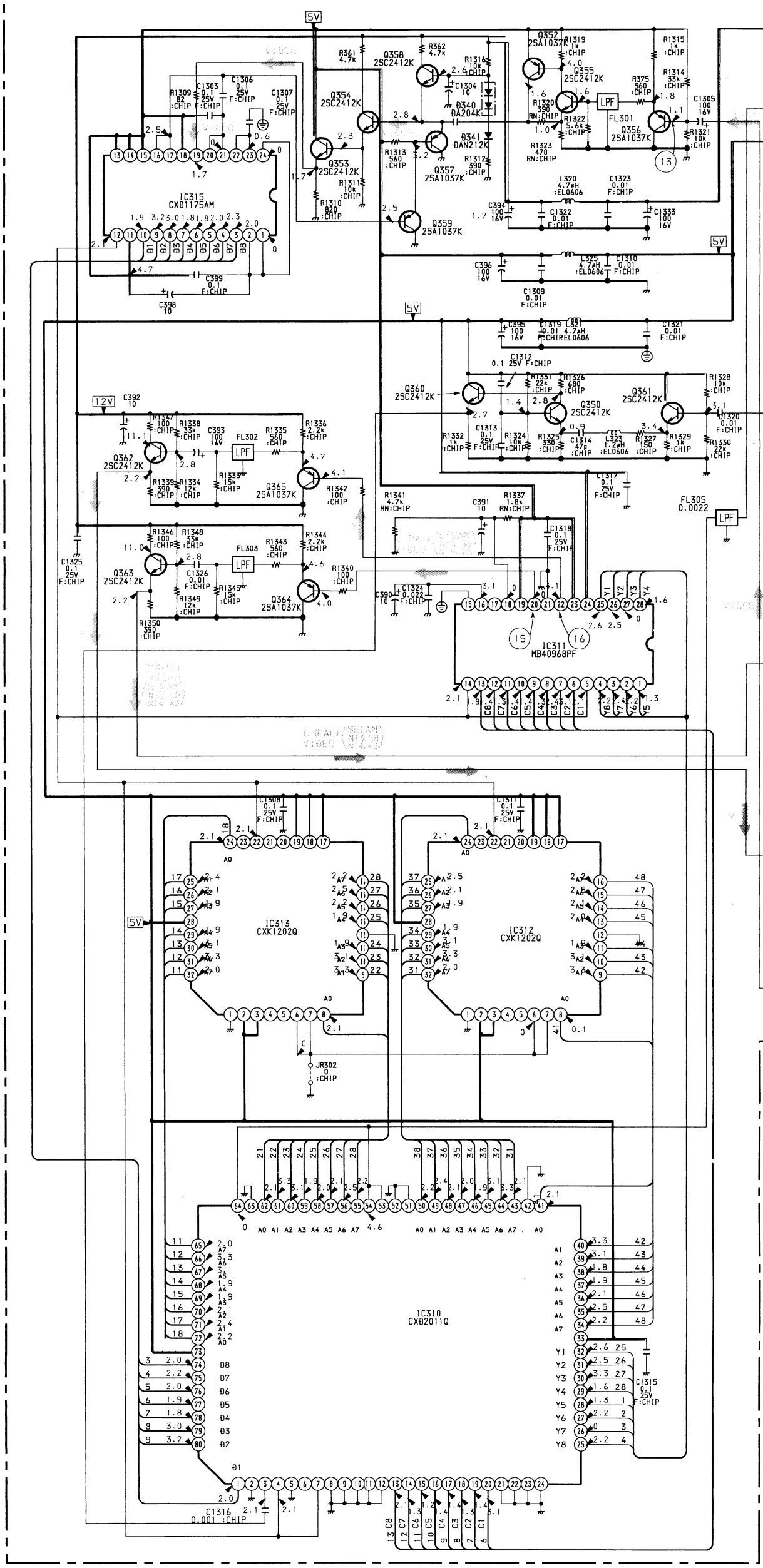
— B1 Board —

IC			
IC301	E – 6	Q360	B – 3
IC302	D – 5	Q361	B – 3
IC303	C – 6	Q362	B – 4
IC304	C – 7	Q363	B – 4
IC305	B – 6	Q364	A – 4
IC306	E – 8	Q365	A – 4
IC308	E – 7	Q366	C – 3
IC310	A – 6	Q367	D – 6
IC311	A – 5	Q368	D – 6
IC312	A – 7	Q369	D – 6
IC313	A – 6	Q370	D – 6
IC315	A – 7	Q371	D – 6
		Q372	D – 6
		Q373	E – 6
		Q1301	D – 2
		Q1302	D – 3
		Q1303	E – 2

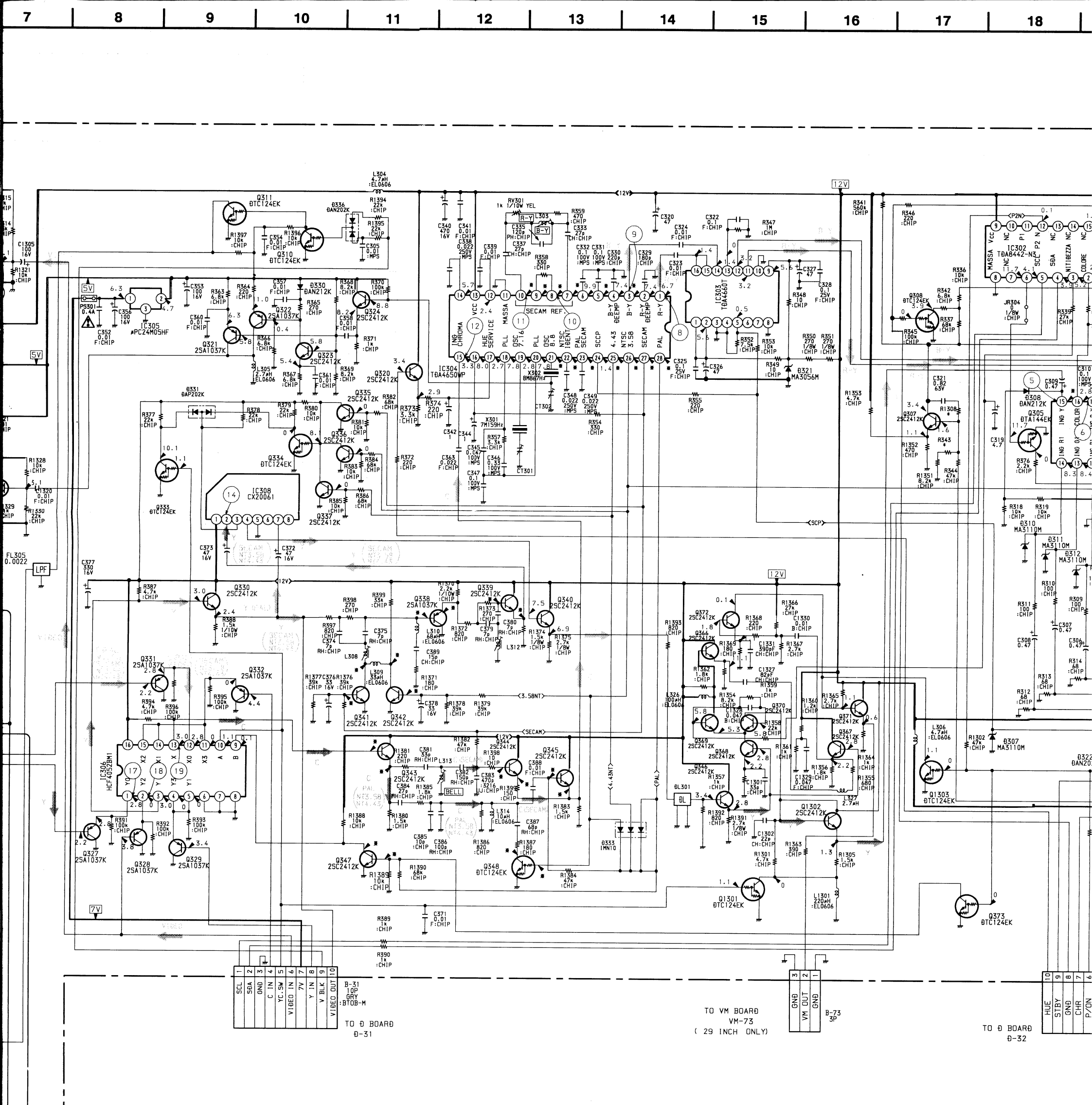
TRANSISTOR		DIODE	
Q301	E – 3	D301	D – 6
Q302	E – 3	D304	E – 5
Q303	E – 3	D305	E – 5
Q304	F – 3	D307	E – 7
Q305	D – 4	D308	E – 6
Q306	F – 2	D309	F – 7
Q307	F – 3	D310	D – 5
Q308	E – 3	D311	D – 5
Q310	C – 1	D312	D – 5
Q311	C – 1	D314	D – 6
Q320	C – 2	D318	D – 6
Q321	B – 2	D319	D – 6
Q322	B – 3	D320	D – 6
Q323	C – 3	D321	C – 6
Q324	C – 2	D322	E – 2
Q327	E – 1	D330	C – 6
Q328	E – 1	D331	E – 7
Q329	E – 1	D333	D – 7
Q330	E – 1	D336	B – 8
Q331	E – 1	D340	B – 7
Q332	E – 1	D341	B – 7
Q333	E – 2		
Q334	D – 2	VARIABLE RESISTOR	
Q335	D – 1		
Q336	C – 1	RV301	C – 8
Q337	C – 2		
Q338	D – 1	TRIMMER	
Q339	D – 2		
Q340	D – 2	CT301	C – 6
Q341	D – 1	CT302	C – 6
Q342	D – 2		
Q343	E – 1	COIL	
Q344	D – 1		
Q345	D – 1	L303	C – 8
Q346	D – 2	L308	D – 8
Q347	E – 1	L312	D – 7
Q348	D – 2	L313	D – 8
Q350	B – 3		
Q352	B – 1		
Q353	A – 1		
Q354	B – 1		
Q355	B – 2		
Q356	C – 1		
Q357	B – 1		
Q358	B – 1		
Q359	B – 1		

— B1 Board —

IC301	TDA4580-V7	VIDEO PROCESSOR
IC302	TDA8442N3	D/A CONVERTER
IC303	TDA4660T	1H DELAY
IC304	TDA4650WP	COLOR PROCESSOR
IC305	μPC24M05HF	REGULATOR
IC306	HCF4052BM	Y/C SW
IC308	CX20061	Y SW
IC310	CXD2011Q-TL	COMB CONTROL
IC311	MB40968PF	D/A CONVERTER
IC312	CXK1202Q-T4	MEMORY
IC313	CXK1202Q-T4	MEMORY
IC315	CXD1175AM-T5	A/D CONVERTER
Q301	2SC2412K	CANAL +BLK
Q302	2SC2412K	ON SCREEN DISPLAY SW
Q303	2SC2412K	FAS PICTURE MUTE SW
Q304	2SC2412K	ON SCREEN DISPLAY SW
Q305	DTA144EK	ANTI PRIORITY SCART
Q306	2SC2412K	STBY SW
Q307	2SC2412K	ABL
Q308	DTC124EK	MUTE
Q310	DTC124EK	SECAM SW
Q311	DTC124EK	SECAM SW
Q320	2SC2412K	HUE BUFFER
Q321	2SA1037K	CLK AMP3
Q322	2SA1037K	CLK AMP2
Q323	2SC2412K	CLK AMP1
Q324	2SC2412K	CLK BUFFER
Q327	2SA1037K	Y OUT
Q328	2SA1037K	VIDEO IN
Q329	2SA1037K	Y IN
Q330	2SC2412K	VIDEO BUFFER
Q331	2SA1037K	C OUT
Q332	2SA1037K	C IN
Q333	DTC124EK	Y/C SW
Q334	DTC124EK	Y SW
Q335	2SC2412K	SECAM SW
Q336	2SC2412K	NTSC (3.58) SW
Q337	2SC2412K	NTSC (4.43) SW
Q338	2SA1037K	Y BUFFER
Q339	2SC2412K	Y BUFFER
Q340	2SC2412K	Y BUFFER
Q341	2SC2412K	SECAM TRAP SW
Q342	2SC2412K	NTSC TRAP SW
Q343	2SC2412K	C OUT
Q344	2SC2412K	SECAM SW
Q345	2SC2412K	PAL/SECAM SW
Q346	2SC2412K	Y IN
Q347	2SC2412K	PAL SW
Q348	DTC124EK	NTSC (3.58) SW
Q350	2SC2412K	CLK AMP
Q352	2SA1037K	VIDEO AMP
Q353	2SC2412K	BUFFER
Q354	2SC2412K	BUFFER
Q355	2SC2412K	VIDEO AMP
Q356	2SA1037K	VIDEO BUFFER
Q357	2SA1037K	CLAMP BIAS
Q358	2SC2412K	VIDEO CLAMP
Q359	2SA1037K	CLAMP BIAS
Q360	2SC2412K	CLK BUFFER
Q361	2SC2412K	CLK AMP
Q362	2SC2412K	Y BUFFER
Q363	2SC2412K	C BUFFER
Q364	2SA1037K	C BUFFER
Q365	2SA1037K	Y BUFFER
Q366	2SC2412K	SHP BUFFER
Q367	2SC2412K	Y BUFFER
Q368	2SC2412K	SHP AMP
Q369	2SC2412K	SHP AMP
Q370	2SC2412K	SHP AMP
Q371	2SC2412K	VM BUFFER
Q372	2SC2412K	VM AMP
Q373	DTC124EK	
Q1301	DTC124EK	Y BUFFER
Q1302	2SC2412K	Y BUFFER
Q1303	DTC124EK	VM MUTE
D301	1MN10	ACO AT ATBY
D304	DAN212K	PROTECT
D305	DAN212K	PROTECT
D307	MA3110M	PROTECT
D308	DAN212K	PROTECT
D309	DAN212K	PROTECT
D310	MA3110M	PROTECT
D311	MA3110M	PROTECT
D312	MA3110M	PROTECT
D314	DA204K	PROTECT
D318	DA204K	PROTECT
D319	DA204K	PROTECT
D320	DA204K	PROTECT
D321	MA3056	REG
D322	DAN202K	PROTECT
D330	DAN212K	BIAS
D331	DAP202K	Y/C SW
D333	1MN10	SYSTEM SW
D336	DAN202K	CORRECT SW
D340	DA204K	VIDEO AMP
D341	DAN212K	VIDEO AMP



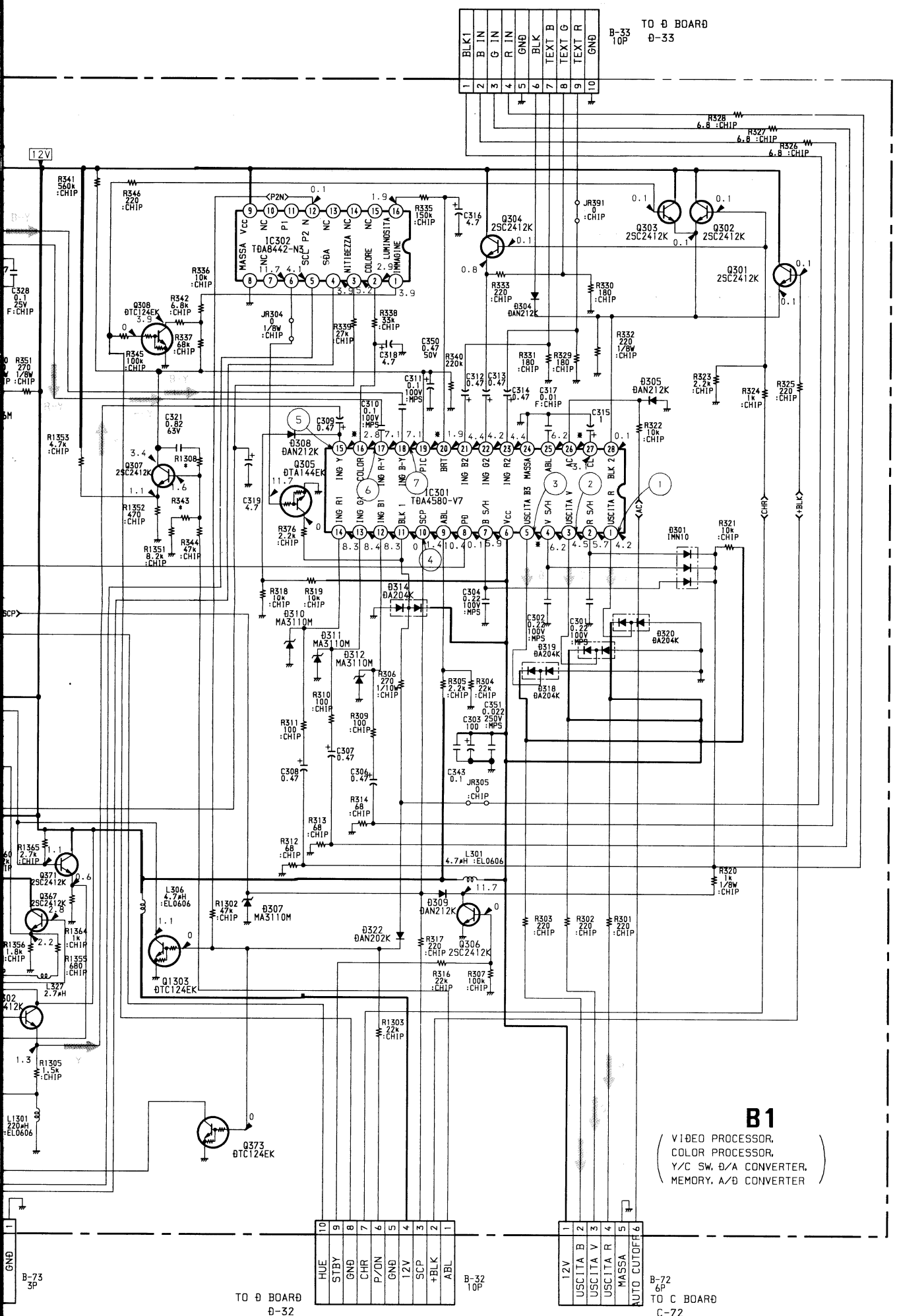
B-SS4161<UK.>-B1.



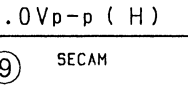
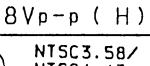
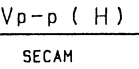
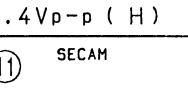
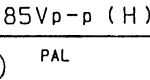
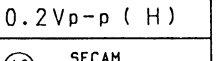
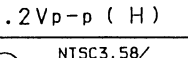
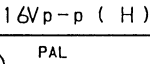
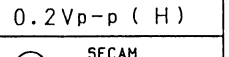
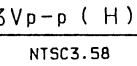
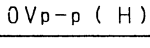
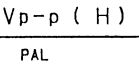
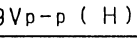
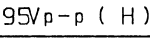
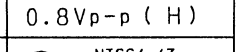
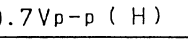
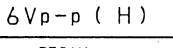
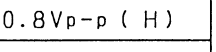
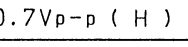
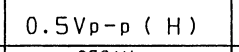
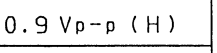
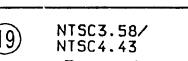
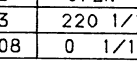
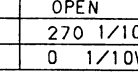
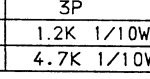
— B1 Board —

As to the voltage
make ※ on the Sche
the another list.

IC·NO	PIN·NO	PAL	SECAM	NT 3.
IC301	(5)	5.1	4.8	
	(15)	7.3	7.0	
	(19)	3.1	3.4	
	(26)	6.6	6.6	
IC304	(3)	6.8	6.8	
	(5)	9.9	10.1	
	(7)	4.3	3.5	
	(8)	3.4	3.0	
	(9)	3.4	3.0	
	(10)	4.3	3.4	
	(21)	2.3	3.1	
	(22)	5.6	5.6	
	(23)	7.5	7.5	
	(25)	0	1.4	
	(26)	0	0	
	(27)	0	5.9	
	(28)	5.9	0	



— B1 Board —

① PAL  5.4Vp-p (H)	① SECAM  4.8Vp-p (H)	① NTSC3.58/ NTSC4.43  5.6Vp-p (H)
② PAL  5.4Vp-p (H)	② SECAM  4.8 Vp-p (H)	② NTSC3.58/ NTSC4.43  5.6Vp-p (H)
③ PAL  5.4Vp-p (H)	③ SECAM  5.0Vp-p (H)	③ NTSC3.58/ NTSC4.43  6.2Vp-p (H)
④  10.5Vp-p (H)	⑤ PAL  0.4Vp-p (H)	⑤ SECAM  0.3Vp-p (H)
⑤ NTSC3.58/ NTSC4.43  0.6Vp-p (H)	⑥ PAL/SECAM  1.1Vp-p (H)	⑥ NTSC3.58/ NTSC4.43  1.2Vp-p (H)
⑦ PAL/SECAM  1.4Vp-p (H)	⑦ NTSC3.58/ NTSC4.43  1.4Vp-p (H)	⑧ PAL  0.4Vp-p (H)
⑧ SECAM  1.0Vp-p (H)	⑧ NTSC3.58/ NTSC4.43  0.8Vp-p (H)	⑨ PAL  0.7Vp-p (H)
⑨ SECAM  1.4Vp-p (H)	⑨ NTSC3.58/ NTSC4.43 0.85Vp-p (H)	⑩ SECAM 0.2Vp-p (H)
⑪ SECAM 1.2Vp-p (H)	⑫ PAL 0.16Vp-p (H)	⑫ SECAM 0.2Vp-p (H)
⑫ NTSC3.58/ NTSC4.43  0.3Vp-p (H)	⑬ PAL  1.0Vp-p (H)	⑬ SECAM  0.8Vp-p (H)
⑬ NTSC3.58 0.9Vp-p (H)	⑬ NTSC4.43 0.95Vp-p (H)	⑭ PAL 0.8Vp-p (H)
⑭ SECAM 0.7Vp-p (H)	⑭ NTSC3.58 0.6Vp-p (H)	⑭ NTSC4.43 0.8Vp-p (H)
⑮ PAL 0.7Vp-p (H)	⑮ SECAM NTSC3.58/ NTSC4.43 0.5Vp-p (H)	⑯ 0.9 Vp-p (H)
⑰ PAL 1.9Vp-p (H)	⑰ SECAM NTSC3.58 NTSC4.43 0.1Vp-p (H)	⑱ PAL 0.2Vp-p (H)
⑱ SECAM 0.8Vp-p (H)	⑲ PAL 0.6Vp-p (H)	⑲ SECAM 0.8Vp-p (H)
⑲ NTSC3.58/ NTSC4.43 0.9Vp-p (H)		

— B1 Board —

As to the voltage volue shown by the make ※ on the Schematic Điagram, see the another list.

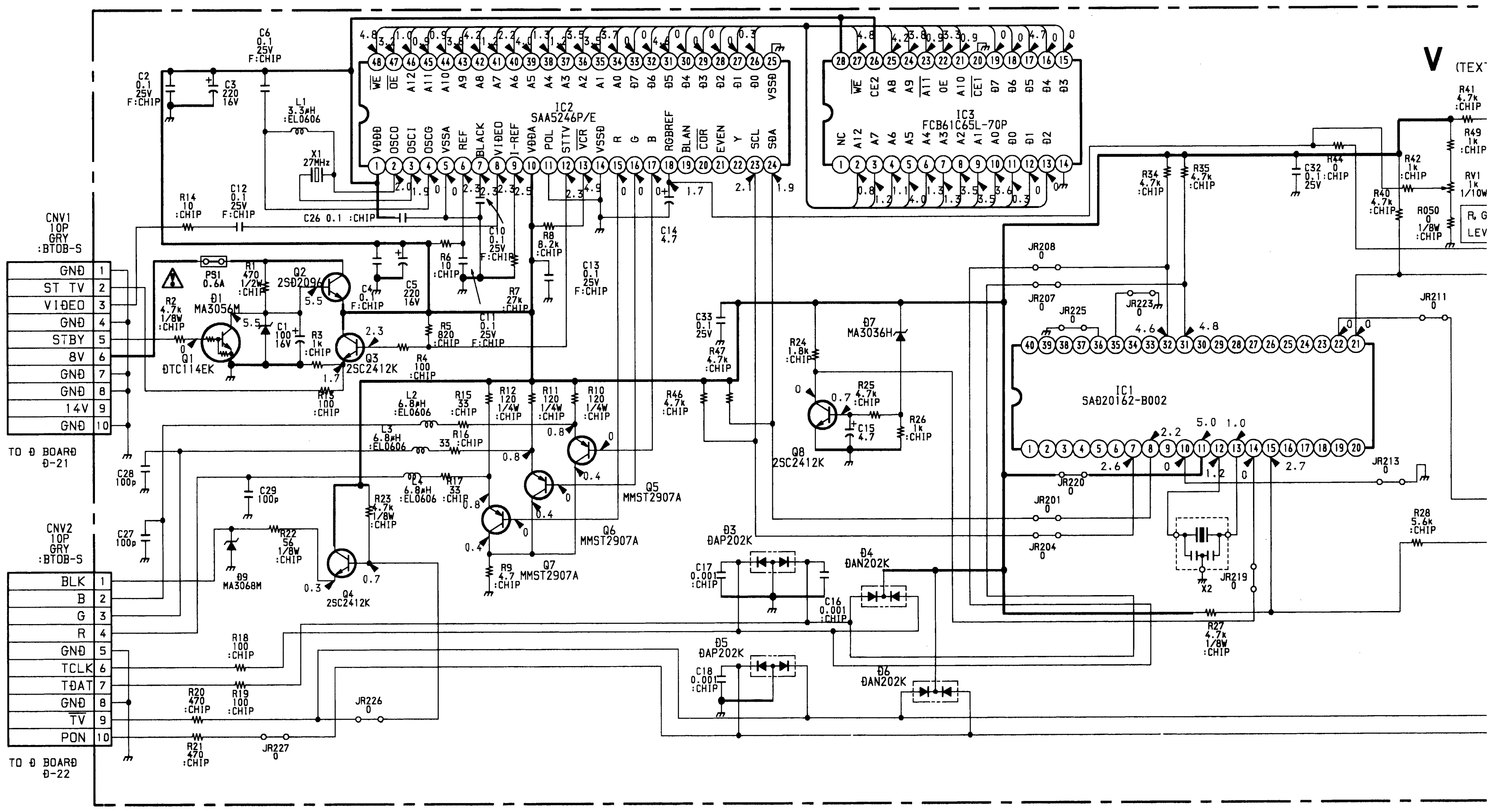
IC·NO	PIN·NO	PAL	SECAM	NTSC 3.38	NTSC 4.43
IC301	⑤	5.1	4.8	4.8	4.8
	⑮	7.3	7.0	7.0	7.0
	⑲	3.1	3.4	3.8	3.4
	㉖	6.6	6.6	6.0	6.3
IC304	③	6.8	6.8	6.9	6.8
	⑤	9.9	10.1	9.9	9.9
	⑦	4.3	3.5	4.6	4.6
	⑧	3.4	3.0	3.4	3.4
	⑨	3.4	3.0	3.4	3.4
	⑩	4.3	3.4	4.6	4.6
	㉑	2.3	3.1	3.1	2.3
	㉒	5.6	5.6	5.6	7.4
	㉓	7.5	7.5	5.7	5.7
	㉕	0	1.4	5.9	5.9
	㉖	0	0	0	0
	㉗	0	5.9	0	0
	㉘	5.9	0	0	0

Q·NO		PAL	SECAM	NTSC 3.38	NTSC 4.43
Q338	B	2.6	3.9	3.9	3.9
	E	3.3	4.6	4.6	4.6
Q339	B	3.2	4.6	4.6	4.6
	E	3.6	3.9	3.9	3.9
Q341	B	0	0.6	0.4	0.1
	C	11.8	0	11.6	11.6
Q342	B	0	0	0.4	0
	C	11.7	0	11.7	11.7
Q343	B	3.2	5.3	5.3	5.3
	E	2.6	4.6	4.7	4.7
Q344	B	0	5.4	1.0	0.1
	E	4.0	4.8	1.5	4.5
Q345	B	4.6	0.1	1.9	5.0
	E	4.0	4.4	1.4	4.4
Q347	B	0.6	0	0	0
	C	0.1	11.9	11.9	11.9
Q348	B	0.1	0.1	1.0	0.1
	C	0.4	0.2	0.2	0.4

— B1 BOARD * MARK —

	KV-A2121Đ	KV-A2521Đ	KV-A2921Đ
B-73	OPEN	OPEN	3P
R343	220 1/10W	270 1/10W	1.2K 1/10W
R1308	0 1/10W	0 1/10W	4.7K 1/10W

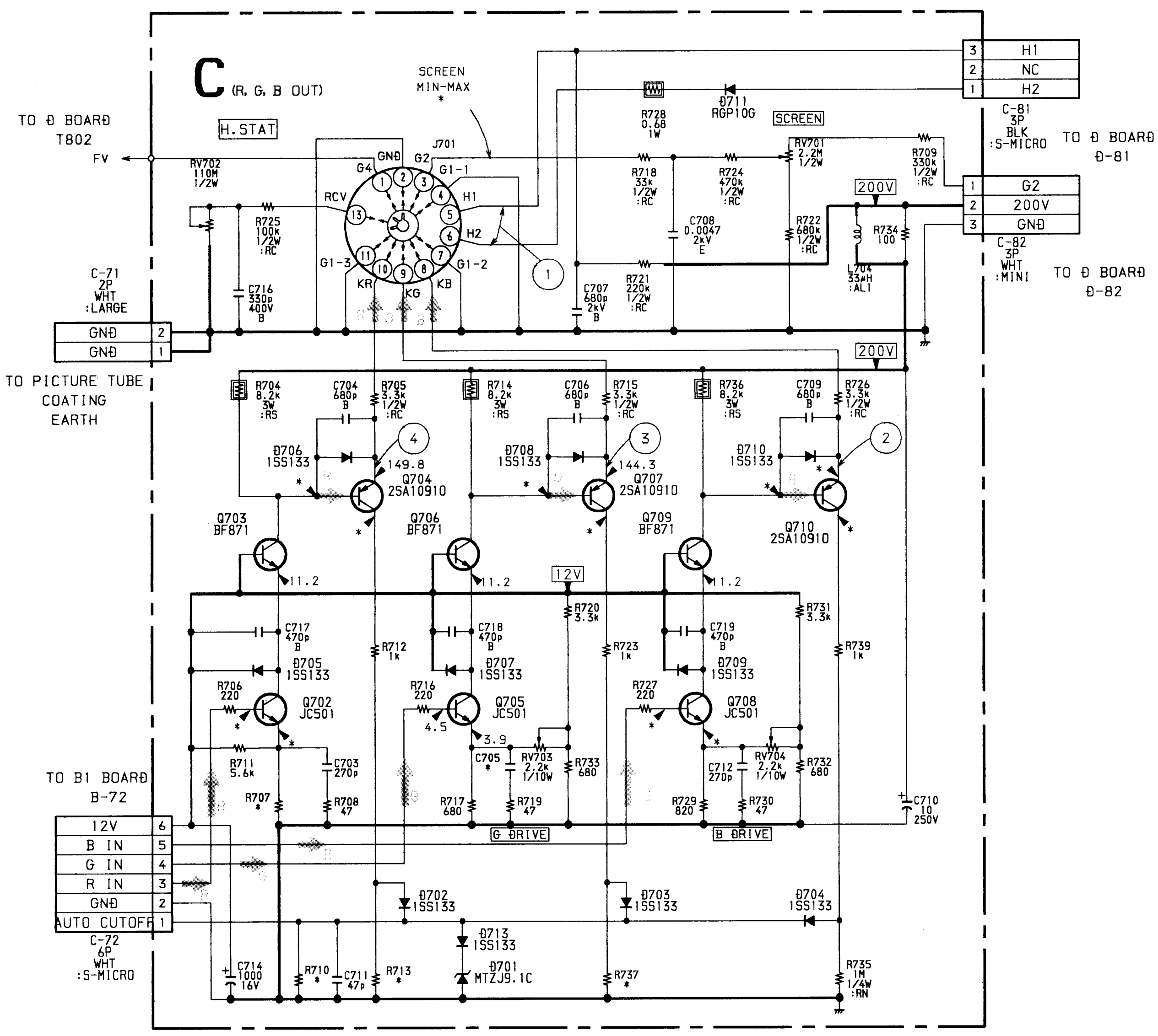
— V Board —



— V Board —

B-SS4172<

IC1	MAB8461P-W208	MICRO-CONT
IC2	SAA5246E	IVT
IC3	FCB61C65L-70P	STATIC-RAM
Q1	DTC114EK	STAND BY
Q2	2SD2096	5V REG
Q3	2SC2412K	SYNC BUFFER
Q4	2SC2412K	BLK OUT
Q5	MMST2907A	B OUT
Q6	MMST2907A	G OUT
Q7	MMST2907A	R OUT
Q8	2SC2412K	P ON SW
D1	MA3056M	5V REG
D3	DAP202K	PROTECT
D4	DAN202K	PROTECT
D5	DAP202K	PROTECT
D6	DAN202K	PROTECT
D7	MA3036H	PROTECT
D9	MA3068M	PROTECT

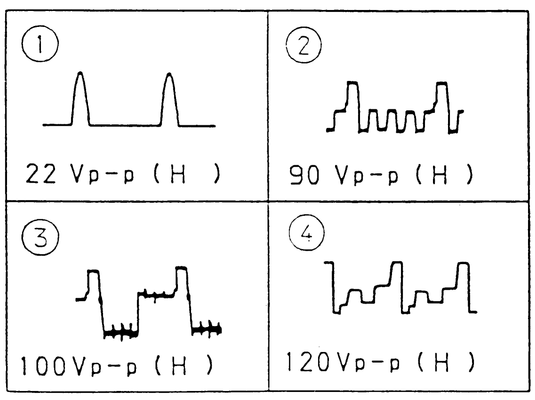


B-¥SS4161<UK.>-C.. , P1

— C Board —

Q702	JC501	R DRIVE
Q703	BF871	R OUT
Q704	2SA10910	ACO MEASURING
Q705	JC501	G DRIVE
Q706	BF871	G OUT
Q707	2SA10910	ACO MEASURING
Q708	JC501	B DRIVE
Q709	BF871	B OUT
Q710	2SA10910	ACO MEASURING
D701	MTZJ9.1C	PROTECT
D702	1SS133	PROTECT
D703	1SS133	PROTECT
D704	1SS133	PROTECT
D705	1SS133	PROTECT
D706	1SS133	PROTECT
D707	1SS133	PROTECT
D708	1SS133	PROTECT
D709	1SS133	PROTECT
D710	1SS133	PROTECT
D711	RGP10G	HEATING VOLTAGE REC
D713	1SS133	PROTECT

— C Board —



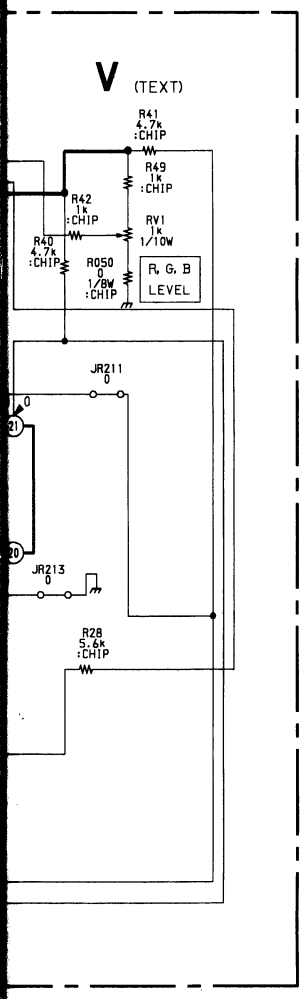
— C Board —

As to the voltage value shown by the make ✱ on the Schematic Diagram, see the another list.

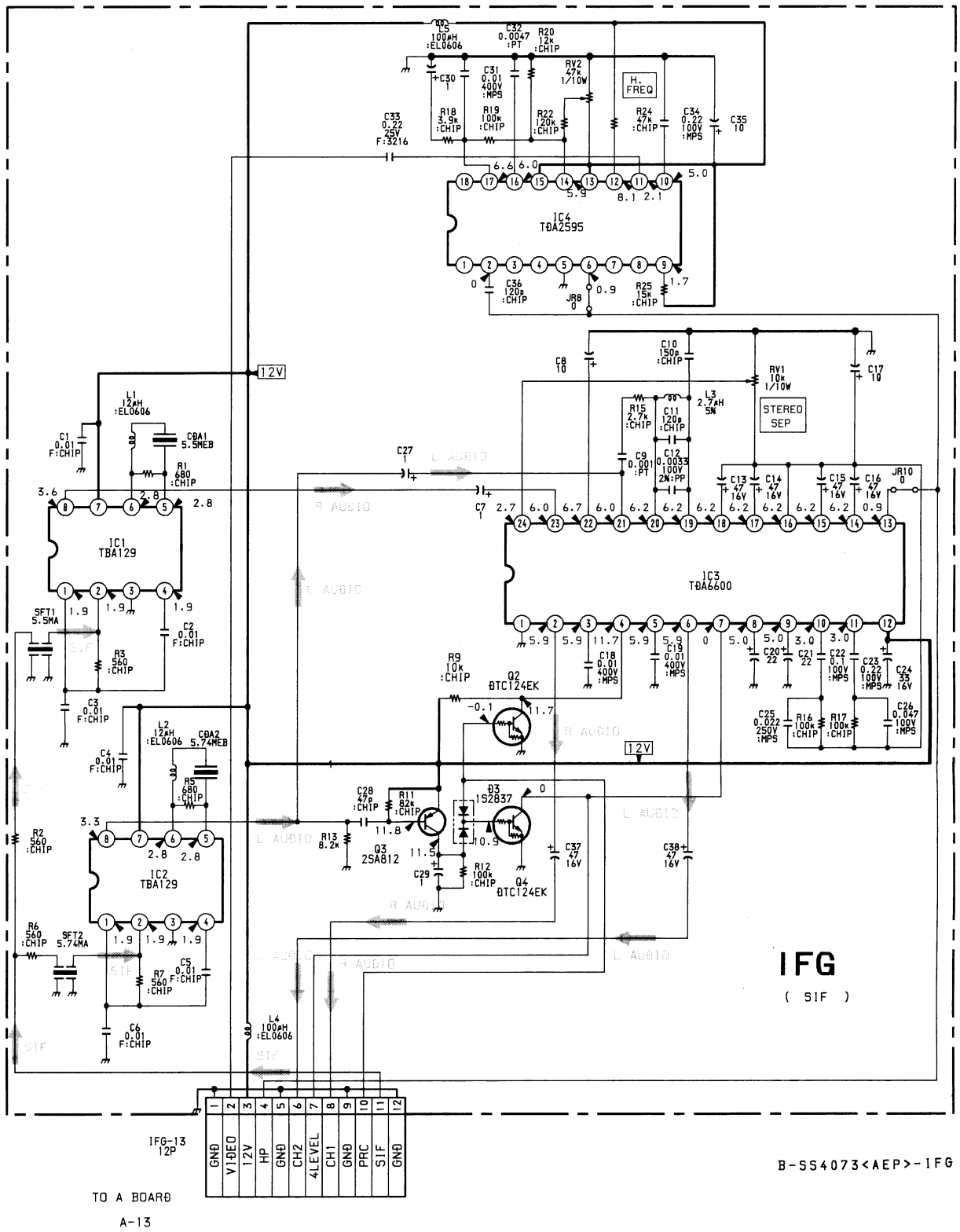
		KV-A2121D	KV-A2521D	KV-A2921D
Q702	B	3.8	4.2	
	E	3.2	3.6	
Q703	C	153.8	145.8	
Q704	B	153.8	145.8	
	C	4.7	5.3	
	E	149.8	138.9	
Q706	C	149.0	145.5	
Q707	B	149.0	145.5	
	C	4.9	6.0	
	E	144.3	141.6	
Q708	B	5.1	4.7	
	E	4.5	4.1	
Q709	C	151.0	131.5	
Q710	B	151.0	131.5	
	C	6.7	7.2	
	E	145.8	126.9	
SCREEN	MIN	170.9	201	
	MAX	907	926	

— C BOARD ✱ MARK —

	KV-A2121D	KV-A2521D
C705	180P	220P
R707	430	390
R710	100K 1/4W 1%	68K 1/4W 1%
R713	160K 1/4W 1%	120K 1/4W 1%
R737	390K 1/4W 1%	820K 1/4W 1%



B-SS4172<AEP>-V..



B-SS4073<AEP>-IFG

— IFG Board —

IC1	TBA129	5.5 DET
IC2	TBA129	5.74DET
IC3	TDA6600	SIF DET AMP
IC4	TDA2595	H.FREQ AMP
Q2	DTC124EK	SW
Q3	2SA812	SW
Q4	DTC124EK	SW
D3	1S2837	SW

CONT
-RAM
BY
UFFER
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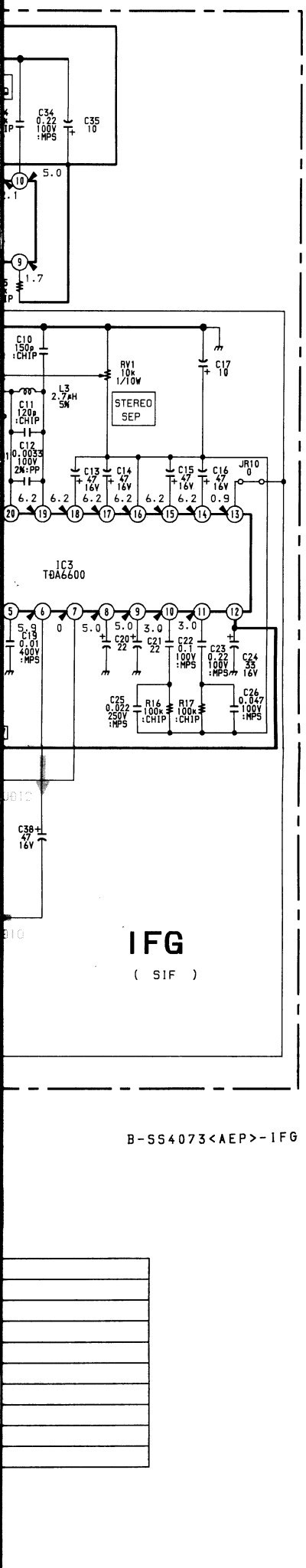
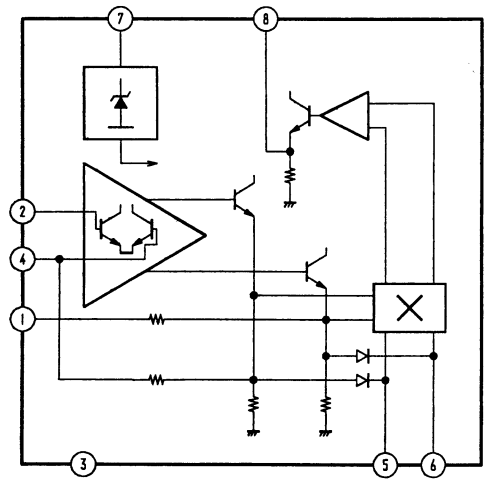
VE
EASURING
VE
EASURING
VE
EASURING
CT

EASURING
CT
CT
CT
CT
CT
CT
CT
CT
CT
CT
NG VOLTAGE REC
CT

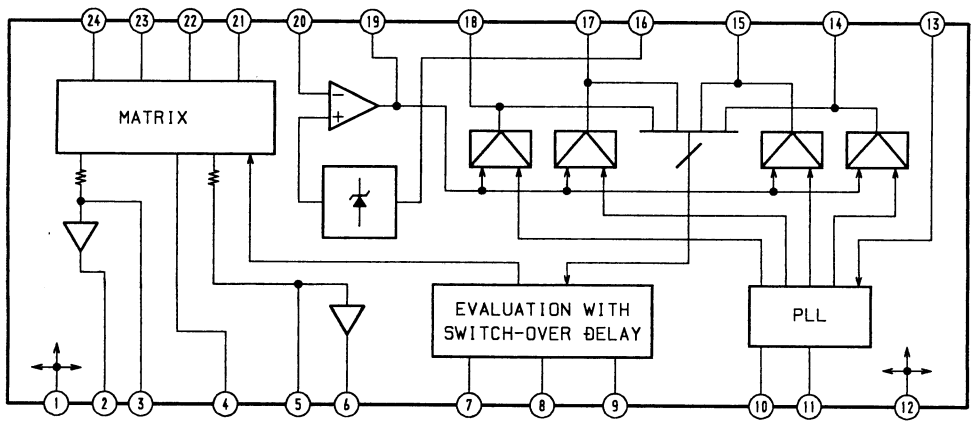
KV-A2521D	KV-A2921D
220P	220P
390	390
68K 1/4W 1%	68K 1/4W 1%
120K 1/4W 1%	120K 1/4W 1%
820K 1/4W 1%	470K 1/4W 1%



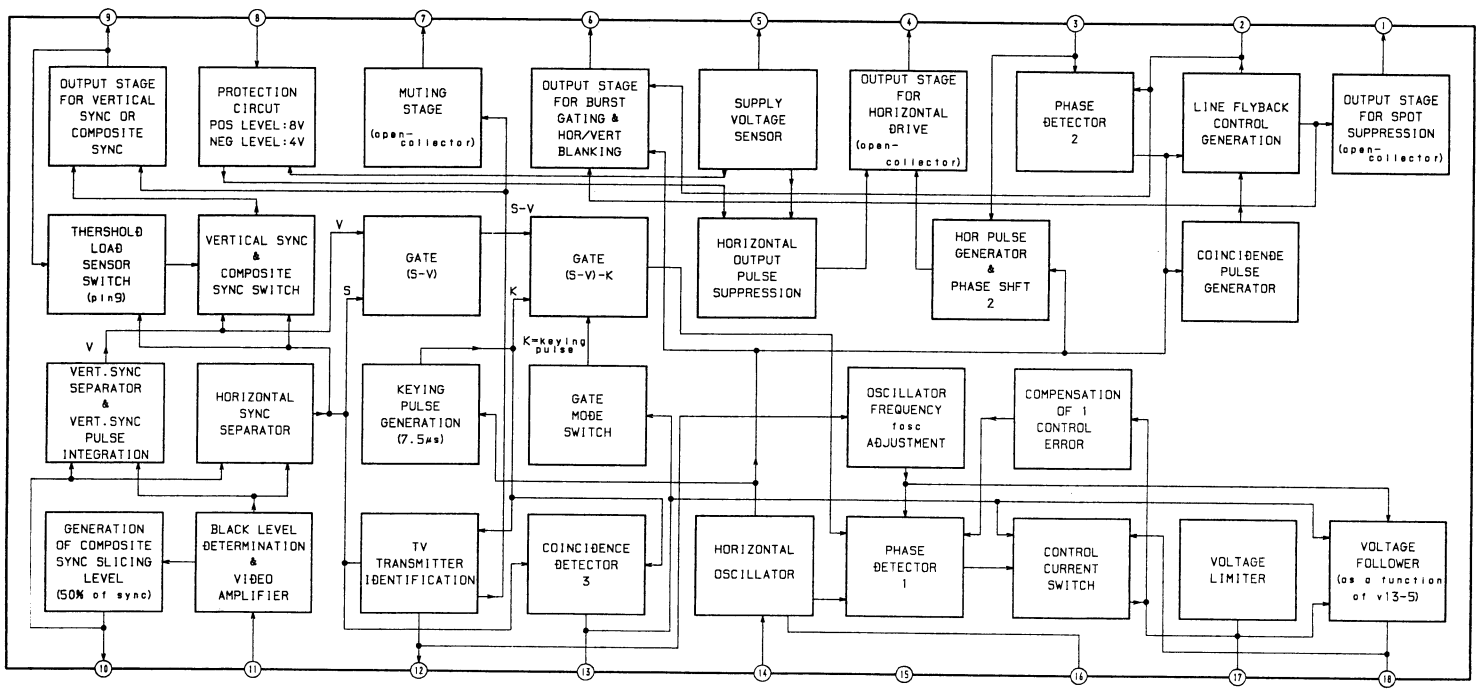
IFG BOARD IC1/IC2 TBA129



IFG BOARD IC3 TDA6600

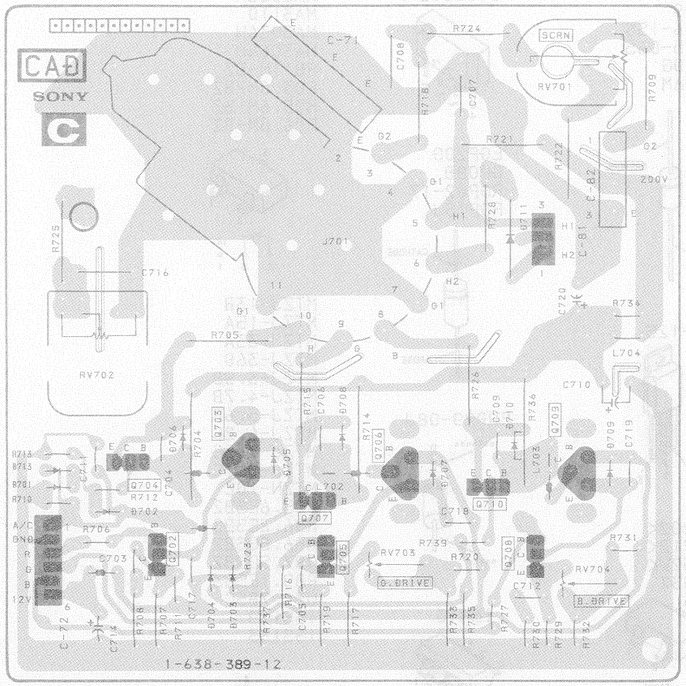


IFG BOARD IC4 TDA2595

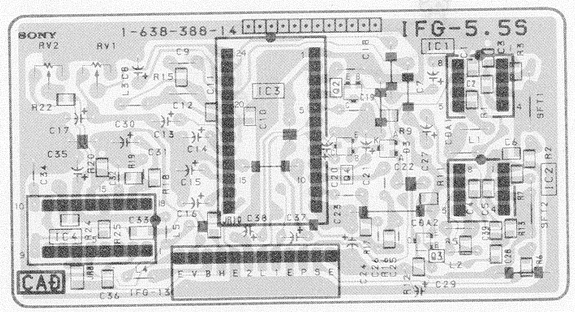


C [R•G•B OUT] IFG [SIF]

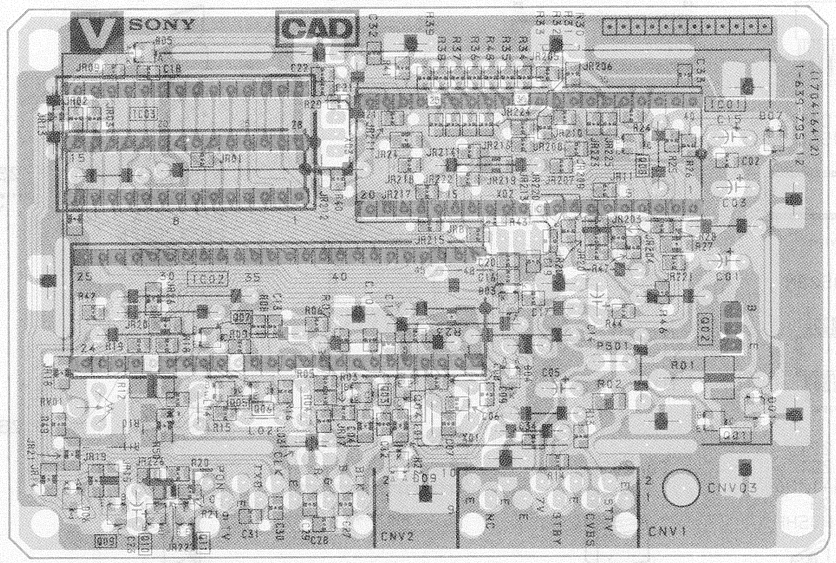
— C Board —



— IFG Board —



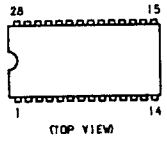
V [TELE TEXT]



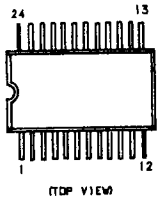
- : pattern from the side which enables seeing.
- : pattern of the rear side.

5-4. SEMICONDUCTORS

CXA1114P
FCB61C65-70P
SAA5246P/E
SDA20162-A002
TDA4580-V6
TDA6200
TEA2028B



CXD1175AM



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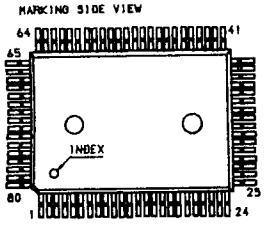

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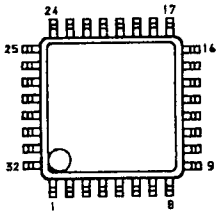

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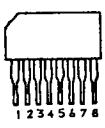

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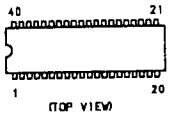
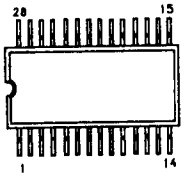
SDA20560-AE1C



MB40968PF
(TOP VIEW)



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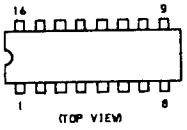
TDA4660T
TDA8442-N3
TEA2260



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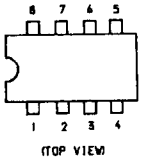
TBA129
TEA2014A
TEA2031A



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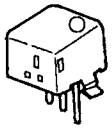

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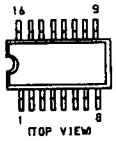

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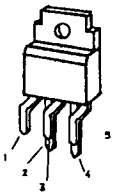

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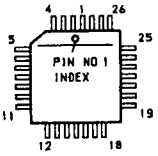

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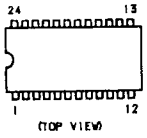

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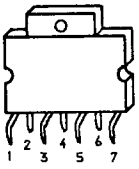

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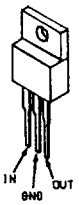

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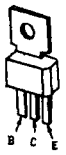

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BU508AS1H
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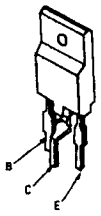

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DTC114EK
DTC124EK
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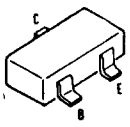
2SC1623-L5L6



ÐTC144ES

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2SÐ2096-EF

CTU-12S

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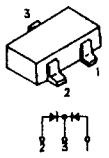

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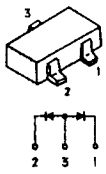

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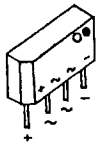

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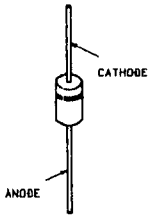
ERC06-15S
RU-3AM



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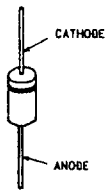

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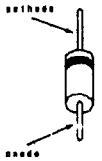

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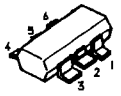
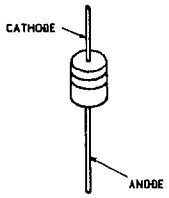
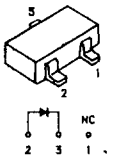


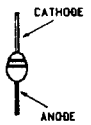
MTZJ-13B
MTZJ-15A
MTZJ-3.9B
MTZJ-33A
MTZJ-36D
MTZJ-6.2B
MTZN-10C
RD5.6ES-B2
RD6.8ES-B2
RD7.5ES-B2
RD9.1ES-B3
UZ4.7BSC
1SS119



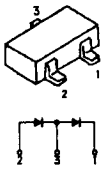
RÐ11M-B2
RÐ3.6M-B2
RÐ5.6M-B2
RÐ6.8M-B2



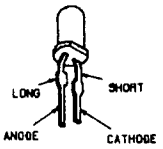
U05G



1SS226

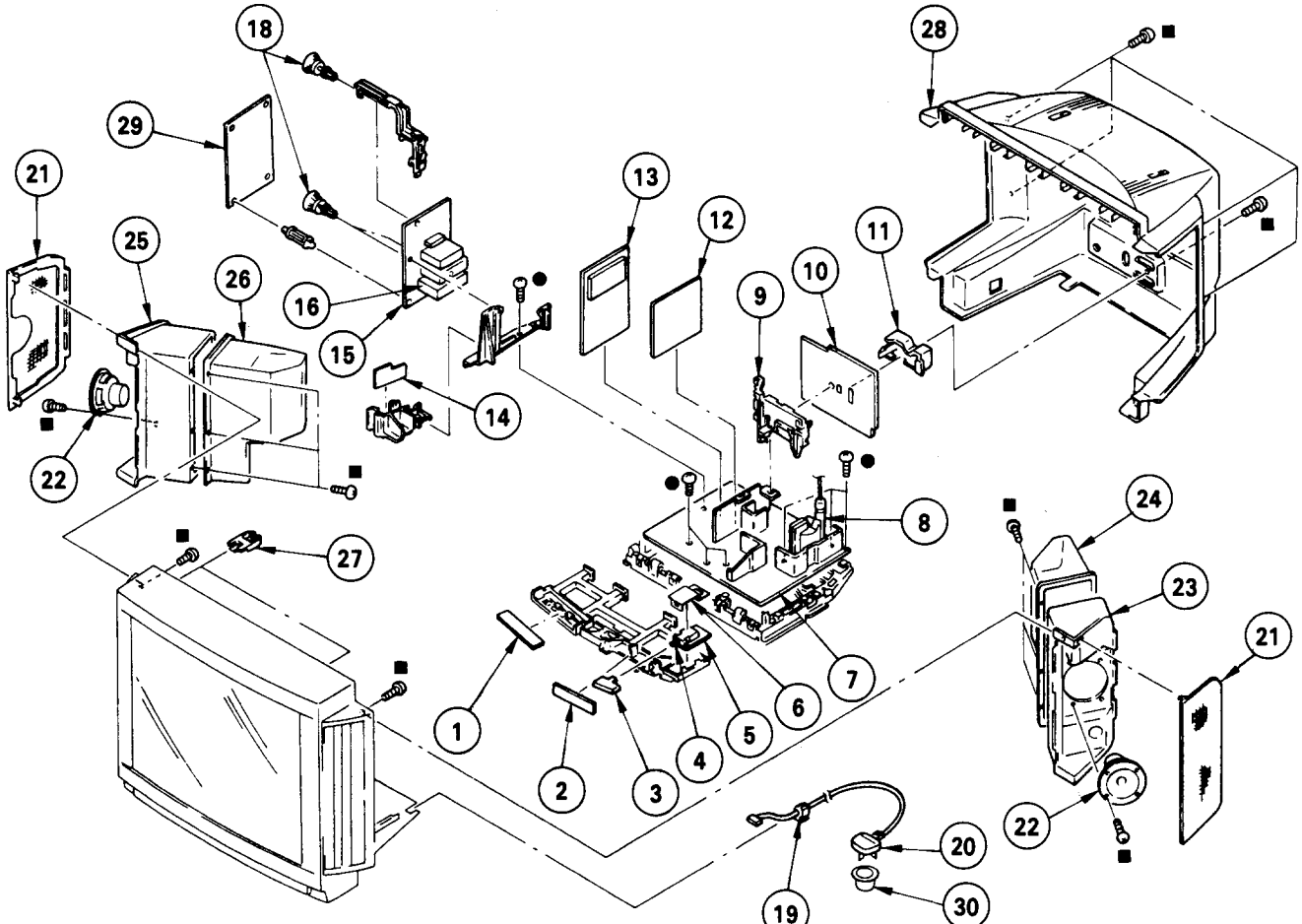


LÐ-201VR



6-1. CHASSIS

● : BVTP3 × 12 7-685-648-79
■ : BVTP4 × 16 7-685-663-79



6-2. PICTURE TUBE

■ : BVTF4 × 16 7-685-663-79
○ : BVTF3 × 8 7-685-646-79